LUMEN

The One Hundred and Forty-first of the Minor Planets, situated between Mars and Jupiter, which was discovered at the Paris Observatory by M. Paul Henry, on the 13th of January 1875, received the name of LUMEN in honour of the Author of this Work.

LUMEN

BY

CAMILLE FLAMMARION

AUTHORISED TRANSLATION FROM THE FRENCH

BY

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LUMEN

FIRST CONVERSATION

RESURRECTIO PRÆTERITI

Quærens. You promised, dear Lumen, to describe to me that supremest of moments which immediately succeeds death, and to relate to me how, by a natural law, singular though it may seem, you lived again your past life, and penetrated a hitherto-unrevealed mystery.

Lumen. Yes, my old friend, I will now keep my word; and I trust that, thanks to the life-long communion of our souls, you will be able to understand the phenomenon you deem so strange.

Life and death.

There are many conceptions which a mortal mind finds difficult to grasp. Death, which has delivered me from the weak and easily-tired senses of the body, has not yet touched you with its liberating hand; you still belong to the living world, and in spite of your isolation in this retreat of yours amid the royal

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towers of the Faubourg St. Jaques, you still belong to the life of Earth, and are occupied with its petty distinctions. You must not, therefore, be surprised if, whilst I am explaining to you this mystery, I beg of you to isolate yourself still further from outer things, and to give me the most *fixed attention* of which your mind is capable.

Quærens. My one desire is to listen to your revelations; speak, therefore, without fear and to the point, and deign to acquaint me with those impressions, as yet to me unknown, which are experienced upon the cessation of life.

Lumen. From what point do you wish me to begin my recital?

Quærens. If you can recall it, I shall be pleased if you will begin at the moment when my trembling hands closed your eyes.

Death.

Lumen. The separation of the thinking principle from the nervous system leaves no remembrance. It is as though the impressions made upon the brain which constitute memory were entirely effaced, to be renewed afterwards in another form. The first sensation of identity felt after death resembles that which is felt during life on awakening in the morning, when still confused with the visions of the night, the mind, wavering between the past and the future, endeavours to recover itself, and at the same time to retain the vanishing dreams, the pictures and events of which are still passing before it. At times when thus absorbed in the recollection of a delightful dream, the eyelids close, and in a half slumber the visions reappear. It is thus that our thinking faculty is divided at death, between a reality that it does not yet comprehend and a dream which has completely disappeared. The most conflicting impressions mingle in and confuse the mind, and if, overwhelmed by perishable feelings, a regret comes into the mind for the world that has been left behind, a sense of indefinable sadness weighs upon and darkens the imagination and hinders clearness of vision.

Quærens. Did you feel these sensations immediately after death?

No such thing as death.

Lumen. After death? There is no such thing as death. What you call death—the separation of the body from the soul—is not, strictly speaking, effected in a material form like the chemical separation of a combination of elements such as one sees in the world of matter. One is no more conscious of this final separation, which seems to you so cruel, than the new-born babe is aware of his birth. We are born into the heavenly life as unconsciously as we were born into the earthly; only the soul, no longer enveloped by its bodily covering, acquires more rapidly the consciousness of its individuality and of its powers. This faculty of perception varies essentially between one soul and another. There are those who, during their earthly life, never lift their souls toward heaven, and never feel a desire to penetrate the laws of creation; these, being still dominated by fleshly appetites, remain long in a troubled and semi-conscious state. There are others whose aspirations have happily flown upwards towards the eternal heights; to these the moment of separation comes with calmness and peace. They know that progress is the law of being, and that the life to come will be better than that which they have quitted. They follow, step by step, that lethargy which reaches at last to the heart, and when, slowly and insensibly, the last pulsation ceases, the departed are already above the body whose falling asleep they have been watching. Freeing themselves from the magnetic bonds, they feel themselves swiftly borne, by an unknown force, toward the point of creation, to which

Not death, but change.

their sentiments, their aspirations, and their hopes have drawn them.

QUÆRENS. The conversation into which I have drawn you, my dear master, recalls to my memory the dialogues of Plato on the immortality of the soul; and as Phædrus asked his master, Socrates, on the day he had to drink the hemlock in obedience to the iniquitous sentence of the Athenians, I ask you—you who have passed the dread boundary—what is the essential difference which distinguishes the soul from the body, since the latter dies, whilst the former cannot die?

Life viewed scientifically.

LUMEN. I shall not imitate Socrates by giving a metaphysical answer to this question, nor shall I, with the theologians, reply in a dogmatic way; but I will give you instead a scientific answer, for you, like myself, accept only as of real value the results of positive knowledge.

We find in the human being three principles, *different, and yet in complete union*: 1. The body; 2. The vital energy; 3. The soul. I name them thus in order that I may follow the *a posteriori* method. The body is an association of molecules which are themselves formed of groups of atoms. The atoms are inert, passive, immutable, and indestructible. They enter into the organism by means of respiration and alimentation; they renew the tissues incessantly, and are continually replaced by others, and when cast out from the body go to form other bodies. In a few months the human body is entirely renewed, and neither in the blood, nor in the flesh, nor in the brain, nor in the bones, does an atom remain of those which constituted the body a few months before. The atoms travel without ceasing from body to body, chiefly by the grand medium of the atmosphere. The molecule of iron is the same whether it be incorporated in the blood which throbs in the temples of an illustrious man, or form part of a fragment of rusty iron; the molecule of oxygen is the same in the blush raised by a loving glance, or when in union with hydrogen it forms the flame of one of the thousand jets of gas that illuminate Paris by night, or when it falls from the clouds in the shape of a drop of water. The bodies of the living are formed of the ashes of the dead, and if all the dead were to be resuscitated, the last comers might find the material for their bodies wanting, owing to their predecessors having appropriated all that was available. Moreover, during life many exchanges are made between enemies and friends, between men, animals,

Renewal of the body.

Atoms and molecules.

and plants, which amaze the analyst who looks at them with the eyes of science. That which you breathe, eat, and drink, has been breathed, drunk, and eaten millions of times before. Such is the human body, an assemblage of molecules of matter which are constantly being renewed. The principle by which these molecules are grouped according to a certain form so as to produce an organism, is the vital energy of life. The inert, passive atoms, incapable of guiding themselves, are ruled by vital force, which calls them, makes them come, takes hold of them, places and disposes of them according to certain laws, and forms this marvellously-organised body, which the anatomist and the physiologist contemplate with wonder.

Atoms indestructible.

The atoms are indestructible; vital force is not: atoms have no age; vital force is born, grows old, and dies. Why is an octogenarian older than a youth of twenty, since the atoms of which his body is composed have only belonged to his frame a few months, and since atoms are neither old nor young? The constituent elements of his body when analysed have no age, and what is old in him is solely his vital energy, which is but one of the forms of the general energy of the universe, and

Vital energy or force in nature and man.

which in his case has become exhausted. Life is transmitted by generation, and sustains the body instinctively, and, as it were, unconsciously. It has a beginning and an end. It is an unconscious physical force, which organises and maintains the body of which it is the preserving element. The soul is an intellectual, thinking, immaterial being. The world of ideas in which the soul lives is not the world of matter. It has no age, it does not grow old. It is not changed in a few months like the body; for after months, years, dozens of years, we feel that we have preserved our identity—that our *ego*, ourself, is always ours. On the other hand, if the soul did not exist, and if the faculty of thinking were only a function of the brain, we should no longer be able to say that *we have* a body, for it would be our body, our brain, *that would have us.* Besides, from time to time our consciousness would change; we should no longer have a feeling of identity, and we should no longer be responsible for the resolutions, secreted by the molecules, which had passed through the brain many months before. The soul is not the vital force; for that is limited and is transmitted by generation, has no consciousness of itself, is born, grows up, declines, and dies. All these states

Vital force has limits.

are opposed to those of the soul, which is immaterial, unlimited, not transmissible, conscious.

The development of the vital force may be represented geometrically by a spindle, which swells out gradually to the middle, and decreases again to a point. When the soul reaches the middle of life, it does not become less, like a spindle, and dwindle down to the end, but follows its parabolic curve into the infinite. Moreover, the mode of existence of the soul is essentially different from that of the vital force. It lives in a spiritual way. The conceptions of the soul, such as the sentiments of justice or injustice, of truth or falsehood, of good and evil, as well as knowledge, mathematics, analysis, synthesis, contemplation, admiration, love, affection or hatred, esteem or contempt—in a word, the occupations of the soul, whatever they may be, are of an intellectual and moral order, which neither the atoms nor the physical forces can apprehend, and which have as real an existence as the physical order of things. The chemical or mechanical work of cerebral cells, however subtle they may be, can never produce an intellectual judgment, such, for instance, as the knowledge of the fact that four multiplied by four is equal to

The soul has no limits.

sixteen, or that the three angles of a triangle are equal to two right angles.

These three elements of the human being are reproduced in the universe at large: 1. The atoms, the material world inert, passive; 2. The physical forces which regulate the world, and which are continually transformed into one another or into others; 3. God, the eternal and infinite spirit, the *intellectual* organiser of the *mathematical* laws which these forces obey, the unknown being in whom reside the supreme principles of truth, of beauty, of goodness. The soul can be attached to the body only by means of the vital force. When life is extinct the soul naturally separates from the organism and ceases to have any immediate connection with time and space.

The soul survives the body.

After death the soul remains in that part of the universe where the Earth happens to be at the moment of its separation from the body. You know that the Earth is a planet in the heavens like Venus and Jupiter. The Earth continues to run in its orbit at the rate of 12,700 kilometres an hour, so that the soul an hour after death is at that distance from its body because of its immobility in space, when no longer subject to the laws of matter. Thus we are in the heavens immediately after death, where, however, we have also been during the whole of our lives; but we then had weight which held us to the Earth. I must add, however, that as a rule the soul takes some time to disengage itself from the nervous organism, and that it occasionally remains many days, and even many months, magnetically connected with the old body, which it is reluctant to forsake. Moreover, it has special faculties by means of which it can transport itself from one point of space to another.

Quærens. Now for the first time I am able to understand death as a natural process, and to comprehend the individual existence of the soul, its independence of the body and of life, its personality, its survival, and its obvious position in the universe. This synthetic theory has prepared me, I hope, to understand and appreciate your revelation. But you said that a singular event struck you on your entrance into the eternal life; at what moment did that take place?

The hour of death.

Lumen. Well, my dear friend, let me go on with my story. Midnight had just struck, you will remember, on the sonorous bell of my old timepiece, and the full Moon shed its pale light on my dying bed, when my daughter, my grandson, and other friends withdrew to take some rest. You wished to remain with me, and you promised my daughter not to leave me till the morning. I would thank you for your warm and tender devotion if we were not so truly brothers. We had been alone about half-an-hour, for the star of night was declining, when I took your hand and told you that life had already abandoned my extremities. You assured me that it was not so; but I was calmly observing my physiological state, and I knew that in a few moments I should cease to breathe. You moved gently towards the room where my children were sleeping, but concentrating my powers by an extreme effort I stopped you. Returning with tears in your eyes, you said to me, "You are right; you have given them your last wishes, and to-morrow morning will be time enough to send for them." There was in these words a contradiction that I felt without expressing it to you. Do you remember that then I asked you to open the window. It was a beautiful night in October; more beautiful than those of the Scottish bards sung by Ossian. Not far from the horizon, just level with my eyes, I could distinguish the Pleiades, veiled by mist, whilst Castor and Pollux floated triumphantly a little higher up. Above, forming a triangle with them, shone the beautiful star with rays of gold, which, on maps of the zodiac, is marked "Capella." You see how clearly I remember it all. When you had opened the window the perfume of the roses, sleeping under the wings of night, ascended upwards to me and mingled with the silent rays of the stars. I cannot express to you how sweet were these last impressions that I received from the Earth; language fails me to describe what I felt. In the hours of my sweetest happiness, of my tenderest love, I never felt such an intensity of joy, so glorious a serenity, such real bliss, as I experienced then in the ecstatic enjoyment of the perfumed breath of the flowers and the tender gleam of the distant stars. . . . When you bent over me I seemed to return to the outer world, and with my hands clasped over my breast, my sight and my thoughts, united in prayer, together took flight into space. Before my ears closed for ever I heard the last words as they fell from my lips: "Adieu! my old friend, I feel that death is bearing me away to those unknown regions where I trust we shall one day meet. When the dawn effaces these stars, only my mortal body will be here. Repeat then to my daughter my last wish: to bring up her children in the contemplation of the eternal goodness." And whilst you wept, as you knelt

Last impressions of the parting soul.

Separation of the soul.

by my bed, I added, "Recite the beautiful prayer of Jesus," and you began with trembling voice, "Our Father, . . . Forgive us . . . our trespasses, . . . as we . . . forgive those . . . that . . . trespass . . . against us. . . ." These were the last thoughts that passed through my soul by means of the senses; my sight grew dim as I looked at the star Capella, and immediately I became unconscious.

Time does not exist outside the Earth.

Years, days, and hours are constituted by the movements of the Earth. In space, outside these movements time *does not exist;* indeed, it is impossible to have any notion of time. I think, however, that the event I am now going to describe to you occurred on the very day of my death, for, as you will see presently, my body was not yet buried when this vision appeared to my soul.

As I was born in 1793, I was then, in 1864, in my seventy-second year, so I was not a little surprised to find myself animated by a vivacity of mind as ardent as in the prime of my life. I had no body, and yet I was not incorporeal; I felt and saw that I was constituted of a substance which, however, bore no analogy to the material form of terrestrial bodies. I know not how I traversed the celestial spaces, but by some unknown force I soon found that I was approaching a magnificent golden sun, the splendour of which did not, however, dazzle me. I perceived that it was surrounded by a number of worlds, each enveloped in one or more rings. By the same unconscious force I was driven towards one of these rings, and was a spectator of the marvellous phenomena of light, for the starry spaces were crossed everywhere by rainbow bridges. I lost sight of the golden sun, and I found myself in a sort of night coloured with hues of a thousand shades. The sight of my soul far exceeded that of my body, and, to my surprise, this power of sight appeared to be subject to my will. The sight of the soul is so marvellous that I must not stop to-day to describe it. Suffice it to say that instead of seeing the stars in the heavens as you see them on the Earth, I could distinguish clearly the worlds revolving round each other; and strange to say, when I desired to examine more closely these worlds, and to avoid the brilliance of the central sun, it disappeared from my sight, and left me under the most favourable conditions for observing any one of them I wished.[1] Further,

Sight of the soul in the heavens.

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[1] Physiological anatomy would probably explain this fact by suggesting that a sort of *punctum cæcum* is displaced in order to conceal the object that one does not wish to see.

when my attention was concentrated on one particular world, I could distinguish its continents and its seas, its clouds and its rivers, although they did not appear to become larger, as objects seen through a telescope do. I saw any special thing that I fixed my sight upon, such as a town or a tract of country, with perfect clearness and distinctness.

The soul clothed in a new body.

When I reached this ringed world I found myself clothed in a form like that of its inhabitants. It appeared that my soul had attracted to itself the constituent atoms of a new body. Living bodies on the Earth are composed of molecules which do not touch one another, and which are constantly renewed by respiration, by nutrition, and by assimilation. The envelope of the soul is formed more quickly in that far-off world. I felt myself more alive than the supernatural beings whose passions and sorrows Dante celebrates. One of the special faculties of this new world is that of seeing very far.

QUÆRENS. But pardon a rather simple remark. Is it not likely that the worlds or planets that revolve round each star must mingle in a distant view with their central sun; for instance, when you see our Sun from afar with the planets of his system, is it possible for you to distinguish our Earth amongst them?

Lumen. You have raised the single geometrical objection which seems to contradict all previous experience. In point of fact, at a certain distance the planets are absorbed in their suns, and our terrestrial eyes would have difficulty in distinguishing them. You know that from Saturn the Earth is invisible. But you must remember that this discrepancy arises as much from the imperfection of our sight as from the geometrical law of the decrease of surfaces. Now, in the world on which I had just landed, the inhabitants are not incarnated in a gross form, as we are here below, but are free beings, and endowed with eminently powerful faculties of perception. They can, as I have told you, *isolate* the source of light from the object lighted, and, moreover, they can perceive distinctly details which at that distance would be absolutely hidden from the eyes of those dwelling upon this Earth.

The soul's powers of vision.

Quærens. Do they make use, then, of instruments superior to our telescopes?

Lumen. Well, if, in order to realise this marvellous faculty, you find it easier to suppose that they possess such instruments, you may do so, in theory. Imagine a telescope which, by a succession of lenses and an arrangement of diaphragms, brings near in succession these distant worlds, and isolates each one in the field of view in order to study it separately. I should also inform you that these beings are endowed with a special sense by which they can regulate at will the powers of their marvellous organs of sight.

And you must further understand that this power and this regulation of vision are natural in those worlds, and not supernatural. In order to conceive of the faculties possessed by these ultra-terrestrial beings, reflect for a moment upon the eyes of some insects—of those, for instance, which have the power to draw in, to lengthen out, or to flatten the crystalline lens so as to make it magnify in different degrees; or of those which can concentrate on the field of view a multitude of eyes in order to bring them to bear upon the desired object.

Quærens. Yes, I can imagine it to be possible. Then you are able to see the Earth, and to distinguish from above even the towns and villages of our lower world?

Lumen on a star world.

Lumen. Let me proceed with my description. I found myself then upon the ring-shaped world, the size of which I told you is great enough to make two hundred worlds like yours. The mountain on which I stood was covered with trees woven into arboreal palaces. These fairy-like chateaux seemed to me either to grow naturally, or else to be produced by a skilful arrangement of branches and of tall flowering plants. The town, where I entered it, was thickly peopled, and on the summit of the mountain I noticed a group of old men, twenty or thirty in number, who were looking with the most fixed and anxious attention at a beautiful star in the southern constellation of the Altar on the confines of the Milky Way. They did not observe my arrival amongst them, so absorbed were they in observing and examining this star, or perhaps one of the worlds belonging to its system.

As for myself, I became aware, on arriving in this atmosphere, that I was clothed in a body resembling that of its inhabitants, and to my still greater surprise I heard these old men speaking of the Earth—yes, of the Earth in that universal spirit-language which all beings comprehend from the seraphim to the trees of the forest. And not only were they talking about the Earth, but about France. "What can be the meaning of these legal massacres?" they said. "Is it possible that brute force reigns supreme there? Will civil war decimate

Lumen learns the language of spirits.

these people, and will rivers of blood run in this capital, at one time so magnificent and so gay?"

I could not follow the drift of this speech, I who had just come from the Earth with the swiftness of thought, and who but yesterday had breathed in the heart of this tranquil and peaceful capital. I joined the group, fixing my eyes, as they did, on the beautiful star, and I tried at the same time to understand what they were talking about. Presently I saw to the left of the star a pale-blue sphere —that was the Earth.

The Solar System in the heavens.

You are aware, my friend, that, notwithstanding the apparent paradox, the Earth is really a star in the sky, as I reminded you just now. Seen from one of the stars comparatively near to your system, it appears to the spiritual sight, of which I have told you, like a family of stars composed of eight principal worlds crowding round the Sun, which is itself reduced to a star. Jupiter and Saturn first arrest the attention, because of their great size; then one notices Uranus and Neptune, and at length, quite near to the Sun-star, Mars and the Earth. Venus is very difficult to make out. Mercury remains invisible because of its too great proximity to the Sun. Such is the appearance of the planetary system in the heavens.

The Earth as seen from the heavens.

My attention was fixed exclusively on the little terrestrial sphere by the side of which I perceived the Moon. I soon remarked the white snow of the North Pole, the yellow triangle of Africa, and the outlines of the Ocean. Whilst my attention was concentrated on our planet, the Sun-star became eclipsed before my eyes. Then I was able to distinguish, in the midst of an expanse of azure, a brown cleft or hollow, and pursuing my investigations I discovered a town in the midst of this cleft. I had no difficulty in recognising that this continental hollow was France, and that the town was Paris. The first sign by which I recognised it was the silver ribbon of the Seine, that describes so many graceful convolutions to the west of the great town. By the use of my new optical organs I could see it in detail. At the eastern side of the city I saw the nave and towers of Notre Dame in the form of a Latin cross. The Boulevards wound round the north. To the south I recognised the gardens of the Luxembourg and the Observatory. The cupola of the Pantheon covered like a grey hood the Mount of Ste. Geneviève. To the west the grand avenue of the Champs-Élysées formed a straight line. Farther on I could distinguish the Bois de Boulogne, the environs of St. Cloud, the Wood of Meudon, Sèvres, Ville d'Avray, and Montretout.

The whole scene was lighted up by splendid sunshine; but, strange to say, the hills were covered with snow as in the month of January, whilst I had left it in October when the country was perfectly green. I was fully convinced that

Paris.

I was looking at Paris; but as I could not understand the exclamations of my companions, I endeavoured to ascertain more details.

My eyes were fixed with most interest upon the Observatory. It was my favourite quarter, and for forty years I had scarcely left it for more than a few months. Judge, therefore, of my surprise when I came to look more closely at it to find that the magnificent avenue of chestnuts between the Luxembourg and the Observatory was nowhere to be seen, that in its place were the gardens of convents. My indignation as an artist was aroused against these municipal misdeeds, but it was quickly suspended by still stranger feelings. I beheld a monastery in the midst of our beautiful orchard. The Boulevard St. Michel

Old Paris.

did not exist, nor did the Rue de Medici; instead I saw a confused mass of little streets, and I seemed to recognise the former Rue de l'Est and the Place St. Michel, where an ancient fountain used to supply water to the people of the faubourg, and I made out a number of narrow lanes which existed long ago. The cupolas and the two side wings of the Observatory had disappeared. By degrees, as I continued my observations, I discovered that Paris was indeed much changed. The Arc de Triomphe de l'Étoile, and all the brilliant avenues that meet there, had disappeared. There was no Boulevard de Sébastopol, no Station de l'Est, nor any other station, and no railway. The tower of St. Jaques was enclosed in a court of old houses, and the Column of Victory was reached that way. The Column of the Bastile was also absent, for I should easily have recognised the figure upon it. An equestrian statue filled the place of the Vendôme Column. The Rue Castiglione was an old green convent. The Rue de Rivoli had disappeared. The Louvre was either unfinished or partly pulled down. Between the Court of Francis I. and the Tuileries there were tumble-down old hovels. There was no obelisk in the Place de la Concorde; but I saw a moving crowd, though I was unable at first to distinguish the figures. The Madeleine and the Rue Royal were invisible. Behind the Isle of

No Arc de Triomphe visible.

No Column Vendôme.

No obelisk in the Place de la Concorde.

St. Louis I saw a small island. Instead of the outer Boulevards there was only an old wall, and the whole was enclosed by fortifications. In short, although I recognised the capital of France by some familiar buildings, I was aware of a marvellous metamorphosis, which had completely changed its aspect.

Time merely relative.

At first I fancied that, in place of having just come from the Earth, I must have been many years *en route.* As the notion of time is essentially relative, and there is nothing real or absolute in the measure of duration, having once left the Earth, I had lost all standard of measure, and I said to myself that years, centuries indeed, might have passed over my head without my perceiving it, and that the time had seemed short to me because of the great interest I had taken in my aerial voyage—a commonplace idea which shows how merely relative is our notion of time. Not having any means of assuring myself of the facts of the case, I should undoubtedly have concluded that I was separated by many centuries from the terrestrial life which was now going on before my eyes in Paris, and I imagined that I saw the period of the twentieth or twenty-first century until I penetrated more deeply into the details of the life picture and examined all its features. Eventually I succeeded in identifying the aspect of the town, and I gradually recognised the sites of the streets and of the public buildings which I had known in my early youth. The Hôtel de Ville appeared to be decorated with flags, and I could distinguish the square central dome of the Tuileries.

Lumen sees a scene in his past life.

A little further examination recalled everything to me; and then I saw, in an old convent garden, a summer-house which made me tremble with joy. It was in that spot that I met in my youth the woman who loved me so deeply, my Sylvia, so tender and so devoted, who gave up everything to unite her life to mine. I saw the little cupola of the terrace where we loved to saunter in the evenings and to study the constellations. Oh, with what joy I greeted those promenades where we had walked, keeping step with one another, those avenues where we took refuge from the curious eyes of intruders! You can fancy how, as I looked at this summer-house, the sight of it alone was enough to assure me, absolutely and convincingly, that I had before my eyes not, as it was natural to suppose, the Paris of long *after my death,* but in reality the Paris *of the past,* old Paris of the beginning of this century or of the end of last century. But, in spite of all, you can easily imagine that I could scarcely believe my eyes. It seemed so much more natural to think that Paris had grown old and had suffered these transformations since my departure from the Earth—an interval of time absolutely unknown to me. It was so much easier to think that I beheld the city of the future. I continued my observations carefully, in order to ascertain if it was really the old Paris, now partly demolished, that I was looking at, or if, by a phenomenon still more incredible, it was another Paris, another France, another world.

II

In the star Capella.

Quærens. What an extraordinary discovery for an analytical mind like yours, dear Lumen! By what means did you satisfy yourself that your conclusions were correct?

Lumen. While I was gradually arriving at the conviction of which I have told you, the old men around me on the mountain continued their conversation. Suddenly the oldest of them, a venerable Nestor whose aspect commanded both admiration and respect, called out, in a loud and mournful voice "On your knees, my brethren; let us pray for forbearance to the universal God. That world, that nation, that city continues to revel in blood. A fresh head, that of a king this time, is about to fall." His companions seemed to understand, for they knelt down on the mountain, and prostrated their white faces to the ground. For myself, I had not yet succeeded in distinguishing men in the streets and squares of Paris, and not being able to verify the observations of these old men, I remained standing, but I pursued my examination of the scene before me carefully. "Stranger," said the old man to me, "do you blame the action of your brothers since you do not join your prayers to theirs?" "Senator," I replied, "I neither approve nor blame what I do not comprehend. Having only just arrived on this mountain, I do not know the cause of your righteous indignation." I then drew near the old man, and while his companions were rising and entering into conversation in groups, I asked him to describe the situation to me. He informed me that the order of spirits inhabiting this world are gifted by intuition with the power of seeing and apprehending events in the neighbouring worlds, and that they each possess a sort of magnetic relation with the stars and systems

The French Terror visible in Capella.

Old men in Capella watch the doings on the Earth.

around them. These neighbour-worlds, or stars, are twelve or fifteen in number. Outside that limit the perceptions become confused. They have therefore a vague but distinct knowledge of the state of humanity in the planets of our Sun, and of the relative elevation in the intellectual and moral order of their inhabitants. Moreover, when a great disturbance takes place, either in the physical or the moral realm, they feel a sort of inner agitation, like that of a musical chord which vibrates in unison with another chord at a distance.

For a year (a year of this world is equal to ten of our years) they had felt themselves drawn by special attraction towards the terrestrial planet, and had observed with unusual interest and anxiety the march of events in that world. They had beheld the end of a reign and the dawn of glorious liberty, the conquest of the rights of man and the assertion of the great principles of human dignity. Then they had seen the cause sacred to liberty placed in peril by those who should have been the first to defend it, and brute force substituted for reason and justice.

I saw that he was describing the great Revolution of 1789, and the fall of the old political world before the new régime. Very mournfully they had followed the events of the Reign of Terror and the tyranny of that bloody time. They trembled for the future of the Earth, and felt doubtful of the progress of a humanity which, when emancipated, so soon lost the treasure it had just acquired. I took care not to let the senator know that I had just arrived from the Earth myself, and that I had lived there seventy-two years. I do not know whether he was aware of this, but I was so much surprised by this vision before me that it completely absorbed my mind and I did not think of myself.

Lumen witnesses the scenes of the French Revolution.

At last my sight was fully developed, and I perceived the spectacle in all its details. I could distinguish, in the midst of the Place de la Concorde, a scaffold, surrounded by a formidable array of war, drums, cannon, and a motley crowd armed with pikes. A cart, led by a man in red, bore the remains of Louis XVI. in the direction of the Faubourg St. Honoré. An intoxicated mob lifted their fists to heaven. Some horsemen, sabre in hand, mournfully followed. Towards the Champs-Élysées there were ditches into which the curious stumbled. But the agitation was concentrated in this region. It did not extend into the town, which appeared dead and deserted; the terror had thrown it into a state of lethargy.

I was not present during the events of 1793, since that was the year of my birth, and I felt an inexpressible interest in being thus a witness of these scenes of which I had read in history. I have often discussed and debated the vote of the Convention, but I confess to you I see no excuse of state in the execution of such men as Lavoisier, the creator of chemistry, Bailly, the historian of astronomy, André Chenier, the sweet poet, or the condemnation of Condorcet, the philosopher. These have roused my indignation much more than the punishment of Louis XVI. I was intensely interested at being thus a witness of this vanished epoch. But you may imagine how much greater was my surprise, and how much more I was astonished, *that I beheld in* 1864 *events actually present before me which had taken place at the end of the last century.*

Quærens. In truth, it seems to me that this feeling of its impossibility ought to have awakened doubt in you. Visions are essentially illusory. We cannot admit their reality even though we see them.

Lumen. Yes, my friend, it was as you say, impossible! Now can you understand my experience in seeing with my own eyes this paradox realised? The common saying is, "One cannot believe one's own eyes." That was just my position. It was impossible to deny what I saw, and equally impossible to admit it.

Quærens. But was it not a conception of your own mind, a creation of your imagination, or perhaps a reminiscence of your memory? Are you sure it was a reality, not a strange reflection from your memory?

Not a paradox

Lumen. That was my first idea; but it was so obvious that I saw before me the Paris of '93, and the events of January 21, that I could no longer be in any doubt about it. Besides, this explanation was anticipated by the fact that the old men of the mountain had preceded me in observing these phenomena, and they had seen, and analysed, and conversed on them as actual facts without knowing anything of the history of our world, and were quite unaware of my knowledge of that history. Further, we had before our eyes *a present fact,* not a past event.

Quærens. But, on the other hand, if the past can be thus merged into the present, if reality and vision can be allied in this way, if persons long since dead can be seen again acting on the scene of life, if new structures and metamorphoses in a city like Paris can disappear and give place to the aspect of the city as it was formerly—in short, if the present can vanish and the past be re-created, what certainty can we have of anything? What becomes of the science of observation? What becomes of deductions and theories? On what solid foundation can we base our knowledge? If these things are true, ought we not henceforth to doubt everything, or else to believe everything?

A reality.

Lumen. Yes, my friend, these considerations and many others occupied my mind and tormented me, but they did not do away with the reality which I was observing. When I had assured myself that we had *present* before our eyes the events of the year 1793, it immediately occurred to me that science, instead of conflicting with these facts, ought to furnish an explanation of them, for two truths can never be opposed to one another. I investigated the physical laws, and I discovered the solution of the mystery.

Quærens. What! the facts were real?

Explanation of the apparent paradox.

Lumen. They were not only real, but comprehensible and capable of demonstration. You shall have an astronomical explanation of them. In the first place, I examined the position of the Earth in the constellation of the Altar as

I have told you; I took the bearings of my position relatively to the Polar star and to the Zodiac. I remarked that the constellations were not very different from those we see from the Earth, and that except in the case of a few particular stars, their positions were evidently the same. Orion still reigned in the ultra-equatorial region, the Great Bear pursuing his circular course still pointing to the north. In comparing the apparent movements, and co-ordinating them scientifically, I calculated that the point where I saw the group of the Sun, the Earth, and the planets, marked the 17th hour of right ascension, that is to say, about the 256th degree, or nearly so. I had no instrument to take exact measurements. I observed, in the second place, that it was on the 44th degree from the South Pole. I made these observations to ascertain the star on which I then was, and I was led to conclude that I was on a star situated on the 76th degree of right ascension, and the 46th degree of north declination. On the other hand, I knew from the words of the old man that the star on which we were was not far from our Sun, since he considered it to be one of the neighbouring stars. From these data I had no difficulty in recalling the star that stands

Lumen ascertains the place where h was in space in the position I had determined. One only answered to it, that of the first magnitude, Alpha in the constellation of Auriga, named also *Capella*, or the *Goat*.

There was no doubt about this. Thus I was certain that I was on one of the planetary worlds of the sun Capella. From thence our Sun looks like a simple star, and appears in perspective to be in the constellation of the Altar, just opposite that of Auriga, as seen from the Earth.

Then I tried to remember what was the parallax of this star. I recalled that a friend of mine, a Russian astronomer, had made a calculation, which had been confirmed, of this parallax. It was proved to be 0,"046.—When I had thus solved the mystery my heart beat with joy. Every geometrician knows that parallax indicates mathematically the distance in units of the magnitude employed in the calculation. I sought then to recall exactly the distance which separated this star from the Earth, in order to prove the accuracy of the calculation. I only needed to find out what number corresponded to 0,"046.[1]

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[1] Every one knows that the farther an object is, the smaller it appears. An object which is seen under an angle of one second, is at a distance of 206,265 times its own diameter, whatever it may be ; because as there are 1,296,000 seconds in the circumference, the ratio between the circumference and its diameter being

Expressed in millions of leagues, this number is 170,392,000, and so, from the star on which I was, the Earth was distant 170 billions 392 thousand millions of leagues. The principle was thus established, and the problem was three parts solved. Now, here is the main point, to which I call your special attention, for you will find in it an explanation of the most marvellous realities. Light, you know, does not cross instantaneously from one place to another, but in successive waves. If you throw a stone into a pool of tranquil water, a series of undulations form around the point where the stone fell. In the same way, sound undulates in the air when passing from one point to another, and thus, also, light travels in space—it is transmitted in successive undulations. The light of a star takes a certain time to reach the Earth, and this time naturally depends on the distance which separates the star from the Earth.

The velocity of light.

3,14159 × 2, it follows that this object is at a distance equal to 206,265 times its own diameter. As Capella sees the semi-diameter of the terrestrial orbit only under an angle 22 times smaller, its distance is 22 times greater. Capella is therefore at a distance of 4,484,000 times the radius of the terrestrial orbit. Future micrometrical measurements may modify these results concerning the parallax of this star, but they cannot change the principle upon which the conception of this work is grounded.

Sound travels 340 metres in a second. A cannon shot is heard immediately by those who fire it, a second later by persons who are at a distance of 340 metres, in three seconds by those who are a kilometre off, twelve seconds after the shot at four kilometres. It takes two minutes to reach those who are ten times farther off, and those who live at a distance of a hundred kilometres hear this human thunder in five minutes. Light travels with much greater swiftness, but it is not transmitted instantaneously, as the ancients supposed. It travels at the rate of 300,000 kilometres per second, and if it could revolve, might encircle the Earth eight times in a second. Light occupies one second and a quarter to come from the Moon to the Earth, eight minutes and thirteen seconds to come from the Sun, forty-two minutes to come from Jupiter, two hours to come from Uranus, and four hours to come from Neptune. Therefore, we see the heavenly bodies not as they are at the moment we observe them, but as they were when the luminous ray which reaches us left them. If a volcano were to burst forth in eruption on one of the worlds I have named, we should not see the flames in the Moon till a second and a quarter had elapsed, if in Jupiter

How the heavenly bodies are seen.

not till forty-two minutes, in Uranus two hours after, and we should not see it in Neptune till four hours after the eruption. The distances are incomparably more vast outside our planetary system, and the light is still longer in reaching us. Thus, a luminous ray coming from the star nearest to us, Alpha, in Centaurus, takes four years in coming. A ray from Sirius is nearly ten years in crossing the abyss which separates us from that sun. The star Capella, being the distance above mentioned from the Earth, it is easy to calculate, at the rate of 300,000 kilometres the second, what time is needed to cross this distance. The calculation amounts to seventy-one years, eight months, and twenty-four days. The luminous ray, therefore, which came from Capella to the Earth, traversed space without interruption seventy-one years, eight months, and twenty-four days before it was visible on the Earth. In like manner, the ray of light which leaves the Earth can only arrive at Capella in the same period of time.

Time occupied in the transmission of light.

Quærens. If the luminous ray which comes from that star takes nearly seventy-two years to reach us, it follows that we see the star as it was nearly seventy-two years ago?

Lumen. You are quite right, and this is the fact that I want you take note of specially.

A belated courier.

Quærens. In other words, the ray of light is like a courier who brings despatches from a distant country, and having been nearly seventy-two years on the way, his news is of events that occurred at the time of his departure seventy-two years ago.

Lumen. You have divined the mystery. Your illustration shows me that you have lifted the veil which shrouded it. In order to be still more exact, the light represents a courier who brings, not written news, but photographs, or, strictly speaking, *the real aspect* of the country from whence he came. We see this living picture such as it appeared, in all its aspects, at the moment when the luminous rays shot forth from the distant orb. Nothing is more simple, nothing more indubitable. When we examine the surface of a star with a telescope we see, not the actual surface as it was at the time of our observation, but such as it was when the light was emitted from that surface.

Quærens. This being so, if a star, the light of which takes ten years to reach us, were to be annihilated to-day, we should continue to see it for ten years, since its last ray would not reach us before ten years had elapsed.

Lumen. It is precisely so. In short, the rays of light that proceed from the stars do not reach us instantaneously, but occupy a certain time in crossing the distance which separates us from them, and show us those stars not as they are now, but such as they were at the moment in which those rays set out to transmit the aspect of the stars to us. Thus we behold a wondrous *transformation of the past into the present.* In the star we observe we see the past, which has already disappeared, while to the observer it is the present, the actual. Strictly speaking, the past of the star is positively the present of the observer. As the aspect of the worlds change from year to year, almost from day to day, one can imagine these aspects emerging into space and advancing into the infinite, and thus revealing their phases in the sight of far-distant spectators. Each aspect or appearance is followed by another, and so on in endless sequence. Thus a series of undulations bears from afar the past history of the worlds which the observer sees in its various phases as they successively reach him. The events which we see in the stars at present are already past, and that which is actually happening there we cannot as yet see. Realise to yourself, my friend, this presentation of an actual fact, for it is of importance to you

We see the past, not the present, aspect of the stars.

to comprehend the precession of the waves of light and to understand the essential nature of this undoubted truth. The appearance of things, borne to us by light, shows us those things not as they are at present, but as they were in that period of the past which preceded the interval of time needed for the light to traverse the distance which separates us from those events.

The planet Earth as seen from afar.

We do not see any of the stars such as they are, but such as they were when the luminous rays that reach us left them.

It is not the actual condition of the heavens that is visible, but their past history. Moreover, there are distant stars which have been extinct for ten thousand years, but which we can see still, because the rays of light from them had set out before they were extinguished. Some of the double stars, the nature and movements of which we seek with care and toil, ceased to exist long before astronomers began to make observations. If the visible heavens were to be annihilated to-day we should still see stars to-morrow, even next year, and for a hundred years, a thousand years, and even for fifty and a hundred thousand years, or more, with the exception only of the nearest stars, which would disappear successively as the time needed for their luminous rays to reach us expired. Alpha of Centaur would go out first, in four years, Sirius in ten years, and so on.

Now, my friend, you can easily apply a scientific theory in explanation of these strange facts of which I was witness. If from the Earth one sees the star Capella, not as it is at the moment of observation, but as it was seventy-two years before, in the same way from Capella one would see the Earth as it was seventy-two years earlier, for light takes the same time to traverse the distance either way.

Quærens. Master, I have followed your explanation attentively. But, I ask you, does the Earth shine like a star? Surely she is not luminous?

The other planets seen from afar.

Lumen. She reflects in space the light of the Sun; the greater the distance the more our planet resembles a star. All the light that radiates from the Sun on its surface is condensed into a disc that becomes smaller and smaller. Seen from the Moon our Earth appears fourteen times more luminous than the full Moon, because she is fourteen times larger than the Moon. Seen from the planet Venus the Earth appears as bright as Jupiter appears to us. From the planet Mars the Earth is the morning and the evening star, presenting phases like those of Venus to us.

Thus, although our Earth is not luminous herself, she shines afar like the Moon and the planets, by the light that she receives from the Sun, and reflects into space.

Now the events taking place on Neptune, if seen from the Earth, would have a delay of four hours; in like manner the view of life on the Earth could only reach Neptune in the same time; nearly seventy-two years, therefore, separate Capella and the Earth.

Quærens. Although these views are new and strange to me, I now understand perfectly how, since the light was nearly seventy-two years in traversing the abyss which separates the Earth from Capella, you beheld not the Earth as it was in October 1864, the date of your death, but as it appeared in January 1793. And I comprehend quite as clearly that what you saw was neither a phenomenon of memory, nor a supernatural experience, but an actual, positive, and incontestable fact, and that in very truth what had long passed away on the Earth was only then present to an observer at that distance. But permit me to ask you an incidental question. In coming from the Earth to Capella did you cross that distance even more quickly than light?

Lumen. Have I not already anticipated your question in telling you that I crossed this distance with the swiftness of thought. On the very day of my death I found myself on this star, which I had admired and loved so much all my life on the terrestrial globe.

Thought swifter than light.

Quærens. Ah, Master, although everything is thus explained, your vision is not the less wonderful. Truly it is an astonishing phenomenon that of seeing thus at once the *past in the present* in this extraordinary manner. Not less marvellous is the thought of seeing the stars, not such as they are when one makes the observation, nor as they have been simultaneously, but as they have been at different epochs according to their distances, and the time that the light of each has taken in coming to the Earth!

Light.

Lumen. I venture to say that the natural astonishment that you feel in contemplating this truth is only the prelude to the things which I have now to unfold to you. Undoubtedly, it appears at first sight very extraordinary, that by removing to a distance in space, one can become a witness of long past events, and remount as it were the stream of time. But this is not more strange than what I have yet to communicate to you, and which will appear to you still more imaginary if you can listen a little longer to the narrative of that day which followed my death.

Quærens. Go on, I beg of you, I am eager to hear you.

III

Lumen sees his own life on Earth.

Lumen. On turning away from the sanguinary scenes of the Place de la Révolution, my eyes were attracted towards a habitation of somewhat an antique style, situated in front of Notre Dame, and occupying the place of the present square in front of the cathedral. I saw a group of five persons before the entrance of the cathedral, who were reclining on wooden benches in the sunshine, with their heads uncovered. When they rose and crossed the square, I perceived that one was my father, younger than I could remember him, another my mother, still younger, and a third a cousin of mine who died the same year as my father, now nearly forty years ago. I found it difficult at first to recognise these persons, for instead of facing them, I saw them only from on high above their heads. I was not a little surprised at this unlooked-for meeting, but then I remembered that I had heard that my parents lived in the Place Notre Dame before my birth. I cannot tell you how profoundly I was affected by this sight; my perception seemed to fail me, and a cloud appeared to obscure Paris from my view. I felt as though I had been carried off by a whirlwind; for, as you are aware, I had lost all sense of time. When I began again to see objects distinctly, I noticed a troop of children running across the Place de Panthéon. They looked like school children coming out of class; for they had their portfolios and books in their hands, and were apparently going to their homes, gambolling and gesticulating. Two of them attracted me especially, for I saw they were quarrelling and just preparing to fight, and another little fellow was advancing to separate them when he received a blow on the shoulder and was thrown down. In an instant a woman ran to help him; this was my own mother. Words fail me to tell my amazement when I perceived that the child to whose rescue my mother came was *my own self.* Never in my seventy-two years of earthly life, with all the unlooked-for changes and strange events with which it was crowded, never in all its surprises and chances have I felt such emotion as this sight caused me; I was completely overcome when in this child I recognised—*myself!*

Quærens. You saw yourself?

Lumen. Yes, myself, with the blond curls of six years of age, with my little collar embroidered by my mother's hands, my little blouse of light blue colour, and the cuffs always rumpled. There I was, the very same as you have seen in the half-effaced miniature that stood on my mantelpiece. My mother came over to me, and sharply reproving the other boys, took me up in her arms, and then led me by the hand into the house, which was close to the Rue d'Ulm. There I saw that, after passing through the house, we reappeared in the garden in the midst of a numerous company.

Quærens. Master, pardon me a criticism. I confess to you that it appears to me impossible that you could see yourself; you could not be two persons; and since you were seventy-two years old, your infancy was passed, and had totally disappeared. You could not see a thing that no longer existed. I cannot comprehend how when an old man you could see yourself as an infant.

Lumen. Why cannot you admit this point on the same grounds as the preceding ones?

Quærens. Because you cannot see yourself double, an infant and an old man, at the same time.

Lumen. Look at the matter more closely, my friend. You admit the general fact, but you do not sufficiently observe, that this last particular is logically inferred from that fact. You admit that the view I had of the Earth was seventy-two years in coming to me, do you not? that events reached me only at that interval of time after they had taken place? in short, that I saw the world as it was at that epoch? You admit, likewise, that as I saw the streets of that time I saw also the children running in those streets? You admit all this?

A logical inference.

Quærens. Yes, decidedly.

Lumen. Well, then, since I saw this troop of children, and myself amongst them, why do you say I could not see myself as well as the others?

Quærens. But you were no longer there amongst them!

Lumen. Again, I repeat, this whole troop of children has ceased to exist. But I saw them such as they were at the moment the ray of light left the Earth, which only reached me at the present time. And as I could distinguish the fifteen to eighteen children in the group, there was no reason why I should disappear from amongst them because I myself was the distant spectator. Since any other observer could see me in company with my comrades, why should I form an exception? I saw them all, and I saw myself amongst them.

QUÆRENS. I had not fully taken in the idea. It is evident, in short, that seeing a troop of children, of whom you were one, you could not fail to see yourself as well as you saw the others.

LUMEN. Now you can understand into what a state of surprise I was thrown. This child was really myself, flesh and bones, as the vulgar expression has it—myself, at the age of six years. I saw myself as well as the company in the garden who were playing with me saw me. It was no mirage, no vision, no spectre, no reminiscence, no image; it was reality, positively myself, my thought and my body. I was there before my eyes. If my other senses had the perfection of my sight, it seemed as though I should have been able to touch and hear myself. I jumped about the garden and ran round the pond, which had a balustrade around it. Some time after my grandfather took me on his knees and made me read in a big book. It is not possible for me to describe my astonishment. I must leave you to imagine what it was to me, and to realise the fact, now that you understand upon what it was based. Suffice it to say, that I had never received such a surprise in my life. One re-

Lumen sees himself a child.

flection especially puzzled me. I said to myself, this child is really me, he is alive, he will grow up, and he ought to live sixty-six years longer. It is undoubtedly myself. And on the other hand, here I am, having lived seventy-two years of the terrestrial life. I who now think and see these things, I am still myself, and this child is me also. *Am I then two beings*, one there below, on the Earth, and the other here in space—two complete persons and yet quite distinct? An observer, placed where I am, could see this child in the garden, as I see him, and at the same time see me here. I must be two—it is incontestable. My soul is in this child; it is no less here. It is the same soul, my own soul. How can it animate two beings? What a strange reality! For I cannot say that I delude myself, or that what I see is an optical illusion, for both according to nature, and by the laws of science, I see at once a child and an old man—the one there beyond, the other here where I am, the former joyous and free-hearted, the other pensive and agitated.

Quærens. In truth it is strange!

Lumen. Yes, but no less true. You may search through all creation and not find such a paradox. Well, to proceed with my history, I

Lumen sees himself a young man.

saw myself grow up in this vast city of Paris, I saw myself enter college in 1804, and perform my first military exercises when the First Consul was crowned Emperor. One day as I passed by the Carrousel I got a glimpse of the domineering and thoughtful face of Napoleon. I could not remember having seen him in my life, and it was interesting to see him thus pass across my field of view. In 1810 I saw myself promoted to the Polytechnic School, and there I was talking of the course of studies with François Arago, the best of comrades. He already belonged to the institute, and had replaced Monge at the school, because the Emperor had complained of the Jesuitism of Binet. I saw myself, in like manner, all through the brilliant years of my youth, full of projects of travels for scientific exploration, in company with Arago and Humboldt, travels which only the latter decided to undertake.

Lumen witnesses the events of the Hundred Days.

Later on I saw myself during the Hundred Days, crossing quickly the little wood of the old Luxembourg, and then the Rue de l'Est and the avenue of the garden of the Rue St. Jaques, and hastening to meet my beloved under the lilac-trees. Sweet meetings all to ourselves, the confidences of our hearts, the silences of our souls, the transports of our evening conversations, were all presented to my astonished sight, no longer veiled by distance, but actually before my eyes. I was present again at the combat with the Allies on the Hill of Montmartre, and saw their descent into the capital, and the fall of the statue in the Place Vendôme, when it was drawn through the streets with cries of joy. I saw the camp of the English and the Prussians in the Champs-Élysées, the destruction of the Louvre, the journey to Ghent, the entrance of Louis XVIII.

The flag of the island of Elba floated before my eyes, and later on I sought out the far Atlantic isle where the eagle, with his wings broken, was chained. The rotation of the Earth soon brought before my eyes the Emperor in St. Helena sadly musing at the foot of a sycamore-tree.

Napoleon at St. Helena.

Thus the events of the years as they passed were revealed to me in following my own career—my marriage, my various enterprises, my connections, my travels, my studies, and so on. I witnessed at the same time the development of contemporary history. To the restoration of Louis XVIII. succeeded the brief reign of Charles X. I saw the barricades of the days of July 1830, and not far from the throne

Historical events appear in succession.

of the Duke of Orleans I saw the Column of the Bastile arise. Passing rapidly over eighteen years, I perceived myself at the Luxembourg at the time when that magnificent avenue was opened, that avenue I loved so much, and which has been threatened by a recent decree. I saw Arago again, this time at the Observatory, and I beheld the crowd before the door of the new amphitheatre. I recognised the Sorbonne of Cousin and of Guizot. Then I shuddered as I saw my mother's funeral pass. She was a stern woman, and perhaps a little too severe in her judgments, but I loved her dearly, as you know. The singular and brief revolution of 1848 surprised me as much as when I first witnessed it. On the Place de la Bourse I saw Lamoricière, who was buried last year, and in the Champs-Élysées, Cavaignac, who has been dead five or six years. The 2nd of December found me an observer on my solitary tower, and from thence I witnessed many striking events which passed before me, and many others which were unknown to me.

QUÆRENS. Did the event pass rapidly before you?

LUMEN. I had no perception of time; but the whole retrospective panorama appeared to me in successive scenes—in less than a day, perhaps in a few hours.

Quærens. Then I do not understand you at all. Pardon your old friend this interruption, a little too abrupt perhaps. As I took it, you saw the real events of your life, not merely images of them. But, in view of the time necessary for the passage of light, these events appeared to you after they had happened. If, then, seventy-two terrestrial years had passed before your eyes, they should have taken seventy-two years to appear to you, and not a few hours. If the year 1793 appeared to you only in 1864, the year 1864, consequently, should only in 1936 appear to you.

Lumen. You have grounds for your fresh objection, and this proves to me that you have perfectly comprehended the theory of this fact. I fully appreciate your belief in me; indeed its consciousness helps me in my explanations. Thus it is not necessary that seventy-two years should be needed in which to review my life, for under the impulse of an involuntary force all its events passed before me in less than a day. Continuing to follow the course of my existence, I reached its later years, rendered memorable

The anachronism explained.

by the striking changes which had come over Paris. I saw our old friends, and you yourself; my daughter and her charming children; my family, and circle of acquaintances; and last of all I saw myself lying dead upon my bed, and I was present at the final scene. Yes; I tell you I had returned to the Earth. Drawn by the contemplation which absorbed my soul, I had quickly forgotten the mountain, the old men, and Capella. Even as a dream all faded from my mind.

I did not at first perceive the strange vision which captivated all my faculties. I cannot tell you either by what law or by what power souls can be transported with such rapidity from one place to another. Suffice it to say, *I had returned to the Earth* in less than a day, and I had entered my chamber even at the moment of my decease. Also in this returning voyage I had travelled faster than the rays of light, hence the various phases of my life on Earth had unrolled themselves to my sight in their successive stages as they occurred. When I reached half-way I saw the rays of light arriving only thirty-six years behind time, showing me the Earth, not as it appeared seventy-two years ago, but thirty-six. When I had travelled three-quarters of the way I saw things as they had been eighteen years ago; at the half of the last quarter, as they were nine years previously; until finally the whole acts of my life were condensed into less than one day because of the rapid rate at which my soul had travelled, which far surpassed the velocity of the rays of light.

Quærens. Was not this a very strange phenomenon?

Lumen. Do any other objections rise in your mind as you listen to me?

Quærens. No, this is the only one; or rather, this one has puzzled and interested me so greatly that it has absorbed all others.

Lumen. I would remark that there is another, an astronomical one, which I will hasten to dispel, for fear it should arise and cloud your mind. It depends upon the Earth's movement, not only upon its diurnal rotation, which in itself would be sufficient to prevent my seeing the facts in succession, but this movement would also be greatly accelerated by the rapidity of my return to the Earth. Hence seventy-two years would pass before me in less than a day. On reflection, I was surprised that I had not earlier perceived this; yet as I had only seen a comparatively small number of countries, panoramas, and facts, it is probable that in returning to our planet I had only a fleeting glance for a few moments of the successive points of interest. But however this may be, I can but bear evidence that I have been witness to the rapid succession of events both throughout the century and of my own life.

Quærens. That difficulty had not escaped me; I had weighed the thought, and had come to the conclusion that you had revolved in space, even as a balloon is spun round by the rotation of the globe. It is true that the inconceivable speed with which you would be whirled through space would be likely to give you vertigo, nevertheless, after hearing your experience, this hypothesis forces itself upon me, that spirits rush through space with the lightness and velocity of thought; and in remarking on the intensity of your gaze as you approached certain parts of the Earth, may it not be admissible to infer that this very eagerness to see certain localities, might be the reason of your being drawn to them, and as it were fixed above their point of vision?

Lumen. As to this I can affirm nothing, because I know nothing; but I do not think this is the explanation. I did not see all the events of my life, but only a few of the main ones, which, successively unfolding, passed in review before me on the same visual ray. A magnetism drew me imperiously as with a chain to the Earth; or, if you prefer it, a force similar to that mysterious attraction of the stars, by reason of which, stars of a lesser degree would inevitably fall upon those of the first magnitude, unless retained in their orbits by centrifugal force.

Quærens. In reflecting on the effect of the concentration of thought upon a single point, and of the attraction which consequently ensues towards that point, I cannot but conclude that therein lies the mainspring of the mechanism of dreams.

The source of dreams

Lumen. You say truly, my friend; I can confirm you in this remark, as for many years I have made dreams the subject of a special study and observation. When the soul, freed from the attentions, the preoccupations, the encumbrance of the body, has a vision of the object which charms it, and towards which it is irresistibly drawn, all disappear except the object. That alone remains, and becomes the centre of a world of creations; the soul possesses it entirely without any reserve, it contemplates it, it seizes it as its own, the entire universe is effaced from the memory in order that its domination over the soul may be absolute. I felt thus on being drawn earthwards. I saw but one object, around which were grouped the ideas, the images, and the associations to which it had given birth.

Quærens. Your rapid flight to Capella and your equally rapid return to the Earth were governed by this psychological law; and you acted more freely than in a dream, because your soul was not impeded by the machinery of your organism. Often in our former conversations have you discoursed to me upon the strength of the will. Thus, willing to do so, you were enabled to return and to see yourself upon your death-bed before your mortal remains had been committed to the dust.

Lumen. I did return; and I blessed my family for the sincerity of their grief. I shed a benediction on them; I soothed their grief, and poured balm upon their wounded hearts; and I inspired my children with the belief that the body lying there was not my real self—my *ego*—but merely the shell from which my soul had risen to a sphere celestial, infinite, and far beyond their earthly ken. I witnessed my own funeral procession, and I noticed those who called themselves my friends and who yet, for some trifling reason, begged to be excused from following my remains to their last resting-place. I listened to the various comments of those following my bier, and although in this region of peace we are free from that thirst for praise which clings to most of us whilst on Earth, nevertheless I felt gratified to know that I had left pleasant memories behind me. When the stone of the vault was rolled away, that which separates the dead from the living, I gave a last farewell to my poor sleeping body; and, as the Sun set in its bed of purple and gold, I went out into the air until night had fallen, plunged in admiration of the beautiful scenes which unrolled themselves in the heavens. The aurora borealis displayed itself above the North Pole in bands of glistening silver, shooting stars rained from Cassiopeia, and the full Moon rose slowly in the east like a new world emerging from the waves. I saw Capella scintillating and looking at me with a glance pure and bright, and could distinguish the crowns surrounding it, as if they were princes dowered with a celestial divinity. Then I forgot the Earth, the Moon, the Planetary System, the Sun, the Comets, in one

Lumen witnesses his own funeral.

His flight to the stars.

intense, overpowering attraction towards a shining brilliant star, and I felt myself carried towards it instinctively with a celerity far greater than that of an electric flash. After a time, the duration of which I cannot guess, I arrived upon the same ring and upon the same mountain, from which I had first kept watch when I saw the old men occupied in following the history of the Earth, seventy-one years and eight months ago. They were still absorbed in the contemplation of events happening in the city of Lyons on the 23rd of January 1793. I will avow to you the reason of the mysterious attraction of Capella for me. For marvellous as it may seem, there are in creation invisible ties which do not break like mortal ties; there are means by which souls can commune with each other, in spite of the distance that separates them.

He meets the spirit of his wife.

On the evening of the second day, as the emerald Moon enshrined itself in the third ring of gold—for such is the sidereal measurement of time—I found myself walking in a lonely avenue enamelled with flowers of sweet perfume. Sauntering along, as if in a dream, imagine my delight when I saw coming towards me my beautiful and beloved Sylvia. She was at a ripe age at her death, and notwithstanding an indefinable change I recognised the features, whose expression had but deepened and spiritualised, in happy correspondence with her sweet, pure life. I will not stop to describe to you the joy of our meeting, this is not the time for it; but perchance some day we may have the opportunity of descanting upon the different manifestations of affection in this world and the world beyond the grave, and I only add now that together we sought our native land on Earth, where we had passed days of peace and happiness. We delighted to turn our gaze towards the luminous point, which our state of exaltation enabled us to perceive was a world—the one upon which we had lived in earthly form—we loved to wed the memory of the past with the reality of our present, and in all the freshness of our new and ecstatic sensations we sought to recall and review the scenes of our youth. It was thus we actually saw again the happy years of our earthly love, the pavilion of the convent, the flower garden, the promenades in the charming and delightful environs of Paris, and the solitary rambles that, loving and beloved, we took together. To retrace these years we had but to travel together into space in the

They recall their life on Earth.

direction of the Earth, where these scenes, focused by the light, were being photographed. Now, my friend, I have fulfilled my promise in revealing to you these remarkable observations.

Behold the day breaks, and the star Lucifer is paling already under its rosy light. I must return to the constellations. . . .

QUÆRENS. Just one more word, Lumen, before we conclude this interview. Can earthly scenes be transmitted successively into space—if so, the present could be kept perpetually before the eyes of distant spectators, and be limited only by the power of their spiritual sight?

The procession of events as seen in space.

LUMEN. Yes, my friend. Let us, for example, place our first observer on the Moon—he would perceive terrestrial events one second and a quarter after they had happened. Let us place a second observer at four times the distance—he would be cognisant of them five seconds later. Double the distance, and a third would see them ten seconds after they had taken place. Again double the distance, and a fourth observer would have to wait twenty seconds before he could witness them; so on and on with ever-increasing delay, until at the Sun's distance; eight minutes and thirteen seconds must elapse before they could become visible.

Upon certain planets, as we have seen, hours must intervene between the action and the sight of it; further off still, days, months even years must elapse. Upon neighbouring stars earthly events are not seen until four, six, ten years after their occurrence; but there are stars so distant that light only reaches them after many centuries, and even thousands of years. Indeed, there are nebulæ to which light takes millions of years to travel.

Quærens. Therefore it only needs a sight sufficiently piercing to witness events historic or geologic which are long since past. Could not one, therefore, so gifted see the Deluge, the Garden of Eden, Adam and . . .

Lumen. I have told you, my old friend, that the rising of the sun on this hemisphere puts to flight all spirits, so I must go. Another interview may be granted us some other day, when we can continue our talk on this subject, and I will then give you a general sketch which will open out for you new horizons. The stars call me, and are already disappearing. I must away. Adieu, Quærens, adieu.

SECOND CONVERSATION

REFLUUM TEMPORIS

I

Quærens. Your revelations which were interrupted by the break of day, O Lumen, have left me hungering and thirsting to hear more of this wonderful mystery. As a child to whom one shows a delicious fruit longs to have a bite, and when he has tasted of it begs for more, so my curiosity is eager to have renewed enjoyment of these paradoxes of nature. May I venture to submit to you a few questions in relation to the subject, which have been suggested to me by the friends to whom I have communicated the substance of your revelations, and then may I ask you to continue the narrative of your impressions of the regions beyond this Earth?

Lumen. No, my friend, I cannot consent to such curiosity. However perfectly disposed

Scientific truth, not fancy or romance.

your mind may be to accept my communications, I am convinced that all the details of my subject have not been equally apprehended by you, and are not in your eyes equally self-evident. My recital has been called mystical by those who have not quite understood that it is neither a romance nor a phantasy, but a scientific truth, a physical fact demonstrable and demonstrated, indisputable and as positive as the fall of an aerolite or the motion of a cannon-ball. The reason which prevents you and your friends from fully comprehending these facts is, that they took place beyond this Earth, in regions foreign to the sphere of your impressions, and inaccessible to your terrestrial senses. Naturally you do not comprehend them. (Pardon my frankness, but in the spiritual world one is frank; there, even thoughts are visible.) You only comprehend those things which you perceive. And as you persist in regarding your ideas of time and space as *absolute*, although they are only *relative*, and thence form a judgment on truths which are quite beyond your sphere, and which are imperceptible to your terrestrial organism and faculties, I should not do you a true service, my friend, in giving you fuller details of my ultra-terrestrial observations.

An inquiring mind.

Quærens. It is not, I assure you, in a spirit of simple curiosity, dear Lumen, that I ventured to draw you forth from the bosom of the invisible world, where advanced souls partake of indescribable joys. But I have understood, perhaps better than you, the grandeur of the problem, and it is under the inspiration of an earnest, studious avidity that I seek for other aspects of it, still more novel than those you have given me, if I may say so, or rather more bold and more incomprehensible. As the result of reflection, I have arrived at the conclusion that what we know is *nothing*, and that what we do not know is *everything;* I am therefore disposed to welcome everything you tell me. I beg of you, if you will allow me, to share your revelations . . .

Lumen. The fact is, my friend, I assure you, either you are not sufficiently able to understand, or you are too willing to believe: in the first case, you do not fully comprehend; in the second, you are too credulous, and do not appreciate my communications at their full value. However, I shall continue.

Quærens. Dear comrade of my earthly life!

Lumen. The remaining facts, which I shall now relate to you, are still more extraordinary than any that preceded them.

Quærens. I feel like Tantalus in the midst of his lake, or like the spirits in the twenty-fourth canto of the Purgatorio. I am as eager as the Hesperides holding out their hands for the fragrant fruit, or as Eve in her desire for . . .

Travelling on a ray of light.

Lumen. Some time after my departure from the Earth, the eyes of my soul being still mournfully directed toward my native world, I found that, on an attentive examination, I could perceive at the 45th degree of north latitude and the 35th degree of longitude, a triangular piece of land of a sombre colour, north of the Black Sea, on the shores of which I saw, towards the west, a grievous number of my compatriots madly engaged in killing one another. I recalled to mind that relic of barbarism, war, formerly called glorious, with which you are still beset and burdened, and I remembered that in this corner of the Crimea 800,000 men fell, in ignorance of the cause of their mutual massacre. Some clouds then passed over Europe. At that time I was not on Capella, but in mid space, between that star and the Earth, about half the distance from Vega. Having left the Earth some time before, I turned toward a group of stars, that, seen from your planet, are to the left of Capella. Mean-while my thoughts recurred from time to time to the Earth, and soon after taking the observation to which I have referred, my eyes being fixed on Paris, I was surprised to see it a prey to an insurrection of the people. Examining it more attentively, I discerned barricades on the boulevards, near the Hôtel de Ville, and along the streets, and the citizens firing at one another. The first idea that occurred to me was that a new revolution was taking place before my eyes, and that Napoleon III. was dethroned. But, by the secret sympathy of souls, my sight was attracted to a barricade in the Faubourg St. Antoine, upon which I saw lying prostrate the Archbishop Denis Auguste Affre, with whom I had been slightly acquainted. His sightless eyes were turned towards the heavens where I was, but he saw nothing; in his hand he held a green branch. I was thus witnessing the days of 1848, and in particular that of the 25th of June.

Lumen sees the Revolution of 1848.

A few minutes—a few hours, perhaps—passed, during which my imagination and my reason sought in turns for an explanation of this special scene. To see 1848 *after* 1854! When my sight was again attracted to the Earth, I remarked a distribution of tricoloured flags in a grand square of the city of Lyons. Trying to distinguish the official person who was making this distribution, I recognised the uniforms, and I remembered that after the accession of Louis Philippe, the young Duke of Orleans had been sent to quell the disturbances in the capital of French manufactures. It followed from thence that, *after* 1854 and 1848, I had before my eyes an event of 1831. Presently my glance turned to Paris on the day of a public fête. The king, a coarse-looking man, with a rubicund face, was tearing along in a magnificent chariot, and was just crossing the Pont Neuf. The weather was splendid. Some fair ladies posed, like a basket of lilies, on the white parapet of the bridge. Floating over Paris some brightly-coloured creatures could be seen. Evidently I beheld the entrance of the Bourbons into France.

He sees the events of 1831.

I should not have understood this last strange sight if I had not recollected that a number of balloons, in the form of animals, had been sent up on that occasion. From my higher altitude they appeared to wriggle about the roofs of the houses. To see again past events was comprehensible enough, according to the law of light. But to see things contrary to their real order in time, that was too fantastic, and puzzled me beyond expression. Nevertheless, as I had the things before my eyes, I could not deny the fact. I sought forthwith for some hypothesis to account for this singular phenomenon. At first I supposed it was really the Earth that I saw, and that by a fiat of fate, the secret of which is known only to God, the history of France repeats itself, and passes through the same phases that it has already traversed; that the course of events proceed up to a certain maximum, where they shine gloriously for a time, and then comes a reaction to the original state of things, by an oscillation in human affairs like the variations of the magnetic needle, or like the movements of the stars.

Supposed explanation of this strange sight.

The personages whom I took for the Duke of Orleans and Louis XVIII. were perhaps other princes, who were repeating exactly what the former had done. This hypothesis, however, appeared to be so very extraordinary, that I paused to consider a more rational theory. Admitting the fact of the number of stars, with planets moving round them, is it not probable that a world exactly like the Earth exists somewhere in the universe of space?

The calculation of probabilities supplies an answer to this question. The greater the number of worlds, the greater will be the probability that the forces of nature have given birth to an organisation like that of the Earth. Now the real number of worlds surpasses all human calculation, either written or possible to be written. If we could understand what "infinite" means, we might venture to say that this number is infinite. I concluded, then, that there is a very high probability in favour of the existence of many worlds exactly like the Earth, on the surface of which the same history is accomplished, and the same succession of historical events takes place; worlds which are inhabited by identically the same species of vegetables and animals, and the same humanity, and where men and families like our own, I doubt not, exist.

Calculation of probabilities.

In the second place, I asked myself if another world analogous to the Earth might not also be symmetrical to it; and then I worked out the geometry of the problem, and the metaphysical theory of images. I arrived at the conclusion that it was *possible* for the world in question to be like the Earth, but in an inverse form. When you look at yourself in a mirror, you notice that the ring on your right hand appears to be on the ring-finger of your left hand. This explains the symbol. If you wink your right eye, your reflection winks the left eye; when you advance your right arm, your image advances the left arm. It is not impossible that in the infinity of the stars a world exists exactly the converse of the terrestrial world. Undoubtedly in an *infinity* of worlds the non-existence of a similar world, perhaps of millions of them, would be the real impossibility. Nature of necessity repeats herself, reproduces herself, but still under all forms plays the game of creation. I thought therefore that the world on which I saw those things was not the Earth, but a globe like the Earth, the history of which was precisely the opposite of yours.

Quærens. I myself have had the idea also that it might have been as you say. But was it not easy for you to make sure of it by ascertaining whether it was the Earth or another star that you had before your eyes, by examining its astronomical position?

The solution of the problem.

Lumen. That is precisely what I did immediately, and this examination confirmed me in my opinion. The star where I had just witnessed four facts, analogous to four terrestrial facts, but inversely, did not appear to me to occupy its original position. The little constellation of the Altar no longer existed, and on that side of the heavens where you remember the Earth appeared to be in my first episode, there was an irregular polygon of unknown stars. I was thus convinced that it was not our Earth that I had before my eyes. I could no longer feel any doubt about it, and I was satisfied that I had now, for my field of exploration, a world so much the more curious that it was not the Earth, and that its history appeared to represent, in an inverse order, the scenes of the history of our world.

History retraced

Some events, it is true, did not appear to have corresponding ones on the Earth, but in general the coincidence was very remarkable. I was the more struck with this because the contempt which I feel for the instigators of war had led me to hope that a folly so absurd and so infamous might not have existed in other worlds. But, on the contrary, the greater part of the events which I witnessed were combats or preparations for war. After a battle, which appeared to me very much to resemble that of Waterloo, I saw the battle of the Pyramids. An image of Napoleon as emperor had become first Consul, and I saw the Revolution succeed to the Consulate. Some time after I observed the square in front of the Château of Versailles covered with mourning-coaches, and in an open pathway from Ville-d'Avray I recognised the botanist Jean Jacques Rousseau slowly walking along, and, no doubt, at that moment philosophising on the death of Louis XV. I was particularly struck with the gala fêtes at the beginning of the reign of Louis XV., worthy successors of those of the Regency, during which the treasures of France glistened in precious stones on the fingers of the three or four adored courtesans. I saw Voltaire, with his white cotton cap, in his park at Ferney; and later on, Bossuet, walking on the little terrace of his episcopal palace at Meaux, not far from the little hill through which the railway is now cut, but I could not see the least trace of the railway line. In this same succession of events, I saw the highroads covered with diligences, and large sailing ships on the seas. Steam and all the factories that are moved by it now, had disappeared. Neither telegraphs nor any other application of electricity existed. Balloons, which more than once I had seen in the field of observation, were lost to sight. The last that I saw was the shapeless globe sent up by the brothers Montgolfier at Annonay in the presence of the States-General. The face of the Earth was quite changed—Paris, Lyons, Marseilles, Havre, and more especi-

France of the past.

ally Versailles, were not recognisable; the first four had lost their immense activity, the last had gained incomparably in magnificence.

The monarchy.

I had formed a very imperfect idea of the splendour of the royal fêtes at Versailles. It was a satisfaction to me to be present at them; and it was not without interest that I recognised Louis XIV. himself, on the splendid terrace at the west, surrounded by a thousand nobles whose breasts were covered with decorations. It was in the evening; the last rays of glowing sunshine were reflected on the royal façade, whilst gallant couples gravely descended the steps of the marble stairs, and presently disappeared along the silent and shady avenues. My sight was fixed in preference on France, or at least toward that region of this unknown world which represented France to me; for absence makes the heart grow fonder, and when far from one's country one thinks of it all the more, and recurs with ever new interest to the thought of it. Do not believe that souls liberated from their bodies are scornful, and indifferent, and devoid of memory. Our existence would then be a sad one. No; we preserve the faculty of remembrance. Our hearts are not wholly absorbed in the life of the spirit; and so it was with an instinctive feeling of delight, which you can imagine, that thus I saw again the history of France unfolded before me as though its phases were being accomplished in an inverse order.

Feudalism. After the people had amalgamated into one nationality, I saw the rule of a single sovereign established. After that came princely feudalism. Mazarin, Richelieu, Louis XIII., and Henry IV. appeared to me at Saint Germain. The Bourbons and the Guises resumed their skirmishes for me. I thought I could distinguish the night of St. Bartholomew. I saw some special events in the history of our provinces—for instance, one of the scenes in the sorcery of Chaumont, which I had time to observe, before the Church of Saint Jean, and the massacre of the Protestants at Vassy. What a comedy is human life! Alas! too often a tragedy! Suddenly I beheld in space the magnificent comet of 1577, in the form of a sabre. In grand array in the midst of a plain, brilliantly decorated, I recognised Francis I. and Charles V. saluting one another. Louis XI. I perceived on a terrace of the Bastile, attended by his two gloomy companions. Later on, my sight was turned to a square in Rouen, where I observed flames and smoke, and in their midst Joan of Arc. I discerned the form of the Maid of Orleans.

Convinced as I was that the world I was looking at was the exact counterpart of the Earth, I divined beforehand the events that I was about to see. Thus, after having seen Saint Louis dying before Tunis, I was present at the eighth Crusade, and subsequently at the third, where I recognised Frederick Barbarossa by his beard. Then at the first Crusade, when Peter the Hermit and Godfrey reminded me of Tasso. I was not a little surprised. I then expected to see, in succession, Hugh Capet, leading a procession, arrayed in his official robes; the Council of Tauriacum deciding that the judgment of God would be pronounced in the battle of Fontanet; Charles the Bald ordering the massacre of a hundred thousand men and all the Merovingian nobility; Charlemagne crowned in Rome: his war against the Saxons and the Lombards; Charles Martel hammering away at the Saracens; King Dagobert founding the Abbey of St. Denis, just as I had seen Alexander III. laying the first stone of Notre Dame; Brunehaut dragged along the pavement by a horse; the Visigoths, the Vandals, the Ostrogoths, Clovis Meroveus appearing in the country of the Saliens: in a word, the history of France, from its very beginning, unrolled itself before me in an order

The Crusades.

The history of France unrolled.

inverse to the succession of events—this was what actually happened. Many historical questions which were very important, and which had hitherto been obscure to me, were rendered clear. I ascertained, among other things, that the French were the original possessors of the right bank of the Rhine, and that the Germans have no right to claim that river, and still less to dispute the possession of the left bank.

There was, I assure you, an immense interest in taking part, if I may so express myself, in the events of which I had but the vague ideas derived from the echoes of history, often deceptive, and in visiting countries that are now totally transformed. The vast and brilliant capital of modern civilisation became old to me, and had shrunk to the size of an ordinary town, but was at the same time fortified with

Old Paris.

crenellated towers. I admired in turns the beautiful city of the fifteenth century, its curious types of architecture, the celebrated tower of Nesle, and the extensive convents of Saint Germain-des-Prés. Where the tower of St. Jacques now stands, I recognised the gloomy court of the alchemist Nicolas Flamel. The round and pointed roofs had the singular effect of looking like mushrooms on the banks of a river. Then this feudal aspect disappeared, and gave place to a solitary castle in the Seine valley surrounded by cottages; and finally there was nothing but a fertile plain, where one could only distinguish a few huts of savages. At the same time I remarked that the seat of civilisation was changed, and was now in the south. I will confess to you, my friend, that I never felt greater delight than at the moment when I was permitted to see Rome of the Cæsars in all its splendour. It was the day of a triumph, and no doubt under the rule of the Syrian princes; for in the midst of magnificent surroundings, gorgeous chariots, the purple oriflammes of the Senate, and of elegant women and of performers of theatres, I distinguished the Emperor luxuriously reclining in a golden car, clothed in delicately-coloured silk, covered with precious stones and ornaments in gold and silver, which glittered in the golden sunshine. This must have been Heliogabalus, the priest of the sun. The Coliseum, the temple of Antoninus, the triumphal arches, and Trajan's column were standing. Rome was in all its ancient beauty and grandeur, that last beautiful phase which was no more than a scene in a theatre to those crowned buffoons. A little later I was present at the eruption of Vesuvius, which

Rome of the Cæsars.

overwhelmed Herculaneum and Pompeii. I saw Rome in flames, just for a moment; and although I was not able to distinguish Nero on his terrace, I have no doubt I beheld the conflagration in the year 64, and the signal for the persecution of the Christians. A few hours after, my attention being still occupied in examining the extensive gardens by the Tiber, I had just seen the Emperor near a parterre of roses, when, in consequence of the revolution of the Earth on its axis, Judea was presented to me. How anxiously I regarded it when I distinguished Jerusalem and the mountain of Golgotha. Jesus was climbing this mountain, accompanied by a few women, escorted by a troop of soldiers, and followed by the Jewish populace. I shall never forget this spectacle. It assumed a totally different aspect to me from what it did to those who were living at the time and who took part in it, for the glorious future (and the past also) of the Christian Church was unfolded for me as the crown of the Divine sacrifice. . . . I cannot dwell on it; you can understand what various feelings agitated my soul on this supreme occasion. . . . A little later, returning to Rome, I recognised Julius Cæsar prostrate in death, with Antony beside him holding what I

Judea.

Calvary.

Death of Julius Cæsar.

think was a roll of papyrus in his left hand. The conspirators were hastening down to the banks of the Tiber. With a very natural curiosity I traced back the life of Julius Cæsar, and found him with Vercingetorix in the centre of Gaul, and I may state that none of the suppositions of our modern historians respecting the situation of Alesia are correct. In fact, this fortress was situated on . . .

QUÆRENS. Master, pardon me for interrupting you, but I am anxious to seize this opportunity to question you on a particular point respecting the Dictator. Since you have seen Julius Cæsar, tell me, I pray you, if his face resembles that given by the Emperor Napoleon III. in his great work on the life of that famous captain?

LUMEN. I should be delighted, my old friend, to enlighten you on this point if it were possible for me to do so. But reflect for a moment, and you will see that the laws of perspective forbid me.

QUÆRENS. Of perspective? You mean to say of politics.

LUMEN. No, of perspective (although these two things strongly resemble one another); for in seeing great men from the height of heaven, I do not see them as they appear to the vulgar.

From the heavens we see men geometrically from above, not face to face; that is to say, when they are standing we have only a horizontal projection of them. You may remember that once in a balloon, as we passed over the Vendôme Column at Paris, you remarked to me that Napoleon seen from that height was not above the level of other men. It was just the same with Cæsar. In the other world material measures disappear, only intellectual measures exist.

Roman history.

To continue, however, I retraced history, from Julius Cæsar to the Consuls, and then to the kings of Latium, in order to witness the rape of the Sabines, which I was pleased to observe actually, as a type of ancient manners. History has embellished many things, and I discovered that most events as represented to us are totally different from the actual facts. Then I saw King Candaules in Lydia, in the scene in the bath that you remember, then the invasion of Egypt by the Ethiopians, the oligarchical republic of Corinth, the eighth Olympiad in Greece, and Isaiah the prophet in Judea. I saw the building of the Pyramids by troops of obedient slaves under chiefs mounted on dromedaries. The great dynasties of Bactria and of India appeared before me,

Building of the Pyramids.

and China showed the marvellous skill in the arts that she possessed even before the birth of the western world. I had an opportunity to search for the Atlantis of Plato, and I saw that the opinions of Bailly on that continent, now submerged, are not devoid of foundation. In Gaul I could distinguish nothing but vast forests and swamps; even the Druids had disappeared, and the savage inhabitants strongly resembled those that we find now in Oçeania. It was truly the *stone age* as it is unearthed for us by modern archæologists. Further back still, I saw that the number of men diminished by degrees, and the domination of nature seemed to belong to a race of the great apes, to the cave bears, to lions, hyenas, and the rhinoceros. A moment arrived when it was not only impossible to distinguish a single man on the surface of the earth, but when not the least vestige of the human race was visible. All had disappeared; earthquakes, volcanoes, deluges prevailed over the surface of the planet, and the presence of man in the midst of such a chaotic state of things was no longer possible.

The Stone Age.

QUÆRENS. I shall confess to you, dear Lumen, that I have waited with impatience for the moment when you should arrive at the garden of Eden, in order to learn in what form the creation of the human race on the earth was presented to you. I am surprised that you do not seem to have thought of making this important observation.

Lumen. I relate to you only the things which I saw, my curious friend, and I refrain from substituting the dreams of my imagination for the evidences of my sight. I did not perceive the least trace of that Eden so poetically depicted in the primitive theogonies. Now, this was very extraordinary, since the resemblance between the world that I had before my eyes and the Earth was so complete. It was more than surprising, if the terrestrial paradise was really the cradle of humanity. But I do not see why paradise might not have been, with as good reason, at the end of human society.

Quærens. Indeed I think it would be more just to suppose it to be at the end rather than the beginning, as the result and the recompense, instead of the misunderstood prelude, to a life of suffering. But since you have not seen it I shall not urge my question.

Prehistoric ages.

Lumen. Finally, in concluding my observations of this singular world, whose history was exactly the inverse of yours, I saw marvellous animals, of monstrous forms, in combat on the shores of vast oceans. There were enormous serpents armed with formidable paws; crocodiles that flew in the air, sustained by wings organically longer than their bodies; misshapen fishes with jaws wide enough to swallow an ox; birds of prey struggling in terrible battles in the desert islands. There were whole continents covered with forests, trees with enormous leaves entangled in one another; a vegetation at once sombre and severe, for the vegetable kingdom was devoid of both flowers and fruit. The mountains vomited forth clouds of flame and vapour, the rivers fell in cataracts, the ground opened in immense chasms in which were engulfed hills, woods, streams, trees, and animals. But before long it became impossible for me to perceive even the surface of the globe; a universal sea appeared to cover it, and the vegetable kingdom, like the animal kingdom, was slowly effaced, and gave place to a monotonous verdure interspersed with lightning and whitish smoke. Henceforth it was a dying world. I was present at the last palpitations of its heart, intermittently revealed in the gloom by flashes of flame. Then it seemed to me that it rained everywhere over its whole surface, for the Sun threw light on nothing but clouds and torrents of rain. The

A dying world.

hemisphere opposite to the Sun appeared less sombre than before, and one could perceive a dull light gleaming through the tempests. This light increased in intensity, and spread over the entire sphere. Great crevasses became red like iron in the furnace; and as iron in a hot furnace becomes bright red, then orange, then yellow, then in succession white and incandescent, so the world passed through all the progressive phases of heat. Its volume increased, its movement of rotation became slower. The mysterious globe seemed like an immense sphere of molten metal enveloped in metallic vapours. Under the incessant action of this interior furnace and the elemental combats (or combinations) of this strange chemistry, it acquired enormous proportions, and the sphere of fire became a sphere of smoke. Thence it went on developing without cessation, and lost its personality. The Sun, which at first had shed light on it, no longer surpassed it in brightness, and it itself increased so much in circumference that it became evident to me that the vaporous planet would soon lose its own existence and be absorbed in the enlarged atmosphere of the Sun. It is a rare experience to be present at the end of a world. And so in my enthusiasm I could not prevent myself from crying out with a kind of vanity, "Behold the end of the world, O God! and this, then, is the fate in store for all the inhabited worlds!" "This is not *the end*," replied a voice in the hearing of my soul; "*this is the beginning*." "How can this be the beginning?" thought I immediately. "The beginning of the Earth itself," replied the same voice. "Thou hast seen over again the whole history of the Earth *in thus withdrawing from her with a velocity greater than that of light*."

The beginning, not the end of the Earth.

This declaration did not surprise me so much as the first episode of my ultra-terrestrial life, for I was now familiarised with the astonishing effects of the laws of light; I was henceforth prepared for every new surprise. I had some doubts of the fact, in consequence of certain details that I have not given you to avoid disturbing the unity of my recital or breaking the thread of my narrative, but which were nevertheless incomparably more extraordinary than the general succession of events.

Quærens. But if it was really the Earth, how comes it that the astronomical calculations you made in order to recognise her in the constellation of the Altar, indicated, as you have pointed out, that the world you were examining was neither the Earth nor a star of the Altar?

Events retraced.

Sidereal perspective

Lumen. The fact is, that even that constellation had itself changed in consequence of my voyage in space. In place of the stars of the third magnitude, α, γ, and ζ (alpha, gamma, zeta), and stars of the fourth magnitude, β, δ, and θ (beta, delta, theta), which constitute that figure as seen from the Earth, my distance towards the nebulæ had reduced those stars to little imperceptible points. It had placed other brilliant stars there, which were no doubt α (alpha) and β (beta) of Auriga, θ, ι, η (theta, iota, eta), and perhaps even ε (epsilon) of the same constellation—stars diametrically opposite to the preceding when seen from the Earth, but which were necessarily interposed there when I had passed them by. The celestial perspective had already changed, and it had become, in truth, almost impossible to determine the position of our Sun.

It was really the Earth that Lumen saw.

Quærens. I had not thought of this inevitable change of perspective on the other side of Capella; and so it was really the Earth that you saw, and therefore its history was unrolled before you in an inverse order—you saw ancient events taking place *after* modern events. By what new process has light thus enabled you to ascend the stream of time? Furthermore, dear Lumen, you have informed me that you have observed some curious particulars relative to the Earth itself. I am wishful to ask you some special questions on these details. I shall listen, then, with interest to the extraordinary history which ought to complete this recital, persuaded, as before, that it will fully reward my curiosity.

II

History read backwards.

Lumen. The first circumstance is connected with the battle of Waterloo.

Quærens. No one remembers that catastrophe better than I do. I received a ball in my shoulder there, in the neighbourhood of Mont Saint-Jean, and a sabre-cut on my right hand from one of Blucher's blackguards.

Lumen. Well, my old comrade, in taking part in this battle again, I found it quite different from what it was in the past, as you may judge from what I will relate to you. When I had recognised the field of Waterloo, to the south of Brussels, I distinguished first a considerable number of dead bodies lying on the ground indiscriminately. Far off, through the mist, I perceived Napoleon walking backwards, holding his horse by the bridle. The officers who accompanied him were marching backwards also. The cannon began to boom, and from time to time I saw the lurid gleam of their flashes. When my sight was sufficiently habituated to the scene, I perceived some soldiers coming to life out of the eternal night, and by a single effort standing up. Group after group, a considerable number, were thus resuscitated. The dead horses revived like the dead cavaliers, and the latter remounted them. As soon as two or three thousand men had returned to life, I saw them form unconsciously in line of battle. The two armies took their places fronting one another, and began to fight desperately with a fury that one might have taken for despair. As the combat deepened on both sides, the soldiers came to life more rapidly. French, English, Prussians, Germans, Hanoverians, Belgians—grey coats, blue uniforms, red tunics, green, white—arose from the field of the dead and fought. In the centre of the French army I espied the Emperor, a battalion in square surrounded him; the Imperial Guard was resuscitated. Their immense battalions advanced from the two camps and engaged in a fierce onslaught; from the left and from the right, squadrons advanced. The white manes of the white horses floated in the wind. I remembered the strange picture by Raffet, and the spectral epigram of the German poet Sedlitz :—

> " La caisse sonne, étrange,
> Fortement elle retentit.
> Dans leur fosse ressuscitent
> Les vieux soldats péris."

And this other :—

> " C'est la grande revue,
> Qu'à l'heure de minuit
> Aux Champs-Élysées
> Tient César décédé."

Waterloo beyond the tomb.

It was really Waterloo, but a *Waterloo beyond the tomb,* for the combatants were raised from the dead. Besides, in this singular apparition they marched backwards one against the other. Such a battle had a magical effect, and impressed me more forcibly, because I foresaw the event itself, and this event was strangely transformed in its counterpart image. Not less singular was the fact, that the longer they fought, the more the number of combatants increased ; at each gap made by the cannon in the serried ranks a group of resuscitated dead filled up the gaps immediately. When the belligerents had spent the whole day in tearing one another to pieces with grape-shot, with cannons and bullets, with bayonets, sabres, and swords—when the great battle was over, there was not a single person killed, no one was even wounded; even uniforms that before it were torn and in disorder were in good condition, the men were safe and sound, and the ranks in correct form. The two armies slowly withdrew from one another, as if the heat of the battle and all its fury had no other object than the restoration to life, amid the smoke of the combat, of the two hundred thousand corpses which had lain on the field a few hours before. What an exemplary and desirable battle it was!

Reascending the ages.

Assuredly it was the most singular of military episodes, and the moral aspect of it far surpassed the physical, when I found that this battle resulted not in the defeat of Napoleon, but in placing him upon the throne. Instead of losing the battle, it was the Emperor who gained it; instead of a prisoner, he became a sovereign. Waterloo was an 18th Brumaire! . . .

Quærens. Dear Lumen, I do not half understand this new effect of the laws of light. If you have discovered it, I shall be grateful to you if you will give me an explanation of it.

Lumen. I have helped you to divine it by telling you that I removed from the Earth with a *greater* velocity than that of light.

Quærens. But tell me, I pray you, how does this retrogression in space enable you to see events in an order inverse to that in which they took place?

Lumen. The theory is very simple. Suppose you set out from the Earth with the velocity exactly *equal* to that of light, you would always have with you the aspect that the Earth assumed at the moment you set out, since you would be receding from the globe with a swiftness precisely equal to that which bore this very aspect into space. Thus, even if you voyaged for a thousand years or a hundred thousand years, this aspect would accompany you always like a photograph which did not grow old; whilst the original is made old by the years that elapse.

Quærens. I understood this fact already in our first conversation.

Lumen. Well, suppose now that you remove from the Earth with a velocity *superior* to that of light, what will happen? You will find again, as fast as you advance into space, the rays that set out *before* you, that is to say the successive photographs which, from second to second, from instant to instant, project their

Retrogressive light pictures.

rays into space. If, for example, you set out in 1867 with the velocity equal to that of light, you would retain for ever the year 1867 in sight. If you went more quickly, you would find before you the rays that had set out in former years, and which bore upon them the photographs of those years. In order further to illustrate this fact, reflect, I pray you, on the many luminous rays that have set out from the Earth in different epochs. Let us suppose the first to be at some instant of the 1st January 1867. At the rate of 300,000 kilometres a second, it has, at the moment in which I am speaking to you, already passed a portion of space from the instant of its departure till it reached a certain distance which I shall express by the letter A. Let us now suppose that a second ray sets out from the Earth a hundred years before, on the 1st January 1767; it is a hundred years *in advance* of the first, and is found at a still greater distance—a distance that I shall express by the letter B. A third ray which I shall in like manner suppose on the 1st January 1667, is still *further off* by a length equal to the distance that the light would travel in a hundred years. I call the place where this third ray reaches, C. Then a fourth, a fifth, a sixth, on respectively the 1st January 1567, 1467, 1367, &c., are posted at equal distances D, E, F, penetrating more and more into the infinite.

Here, then, we have a series of photographs, taken on the same line, from post to post in space. Now, the mind which travels on in passing successively by the points A, B, C, D, E, F, can retrace successively the secular history of the Earth in those epochs.

Quærens. Master, at what distance are these photographs from one another?

Lumen. The calculation is very easy. The interval which separates them is of necessity that which light travels in a hundred years. Now, at the rate of 75,000 leagues per second, you see at once that it travels 4,500,000 leagues in a *minute*, 270,000,000 leagues in an *hour*, 6,480,800,000 leagues in a *day*, 2,366,820,000,000 in a *year*, allowing for leap-years; consequently, the result would be that the interval between two points of departure at the distance of a *century* from one another, is nearly 236 *billions* 682 thousand millions of leagues. Here, then, I say we have a series of terrestrial photographs, imprinted in space, at corresponding distances, one after another. Let us now suppose that between

Photographs of the life on Earth imprinted in space.

each of these centennial pictures we should find annual pictures, between each of which the distance is preserved in accordance with the time that light travels in a year, which I have just given you; then between each of the annual pictures we have those of every day, and as each day contains the photographs of each hour, every hour the photographs of its minutes, and every minute of its seconds, all succeeding one another, according to their respective distances apart—we shall have in a ray of light, or rather in a jet of light, composed of a series of distinct pictures in juxtaposition, the aerial register of the history of the Earth.

Psychical optics.

When the spirit travels in this ethereal ray of pictures with a swiftness greater than that of light, it sees in succession, backwards, the ancient pictures. When it arrives at the distance at which the aspect of events that set out in 1767 is to be seen, it has already retraced a hundred years of terrestrial history. When it reaches the point where the aspect of 1667 has arrived, it retraces two centuries. When it attains to the photograph of 1567, it has seen, again, three centuries, and so on successively. I told you in the beginning that I directed my course toward a group of stars situated at the left of Capella. This group proved to be at an incomparably greater distance than that star, although from the Earth it appeared to be close beside it, because the two visual rays are near one another. This apparent proximity is solely due to the perspective. In order to give you an idea of the remoteness of this far-off universe, I may tell you that it is not less vast in size than the Milky Way. One may then ask to what distance should the Milky Way be transported to reduce it to the apparent size of this nebula. My learned friend Arago made this calculation, of which you must be aware, as he repeated it every year in his course of lectures at the Observatory, that have been published since his death. It would be necessary to suppose the Milky Way to be transported to a distance equal to 334 times its own length. Now, as light takes 15,000 years to traverse the Milky Way from one end to another, it follows that it cannot take less than 334 times 15,000 years, that is to say, less than 5,000,000 years, in coming from thence. I have ascended a ray of light from the Earth to these remote regions, and if my spiritual sight had been more perfect, I should have been able to distinguish not only the retrogression of history for 10,000 years or 100,000 years, but even for 5,000,000 years.

QUÆRENS. Can the mind, then, by its powers alone, cross in this way the immeasurable spaces of the heavens?

LUMEN. Not by its own power alone, but by making use of the forces of nature. Attraction is one of these forces. It is transmitted with a velocity incomparably superior to that of light, and the most rigorously exact astronomical calculations are obliged to consider this transmission as almost instantaneous. I will add that if I have been able to perceive events at such distances, it is not by the apprehension of a physical sense that I know them, but by a process incomparably more subtle, which belongs to the psychic order. The movements of the ether, which constitute light, are not luminous by themselves, as you know. The eye is not necessary in order to perceive them. A soul vibrating under their influence perceives them as well, and often incomparably better than an organic optical apparatus. This being psychical optics. For example, attraction crosses instantaneously the 148,000,000 of kilometres that separate the Earth from the Sun, whilst light occupies 493 seconds in this passage.

Quærens. What length of time did your voyage to that remote universe occupy?

Lumen. Have I not told you that time does not exist outside the movements of the Earth? Whether I employed a year or an hour, it would have been exactly the same period in infinity.

Quærens. I have thought it over, and the physical difficulties seem to me enormous. Permit me now to submit to you a strange thought that has just come into my head.

Lumen. It is to hear your reflections that I give you this narrative.

Quærens. I want to ask you if the same inversion would take place with the hearing as well as the sight? If you can see an event backwards from its real occurrence, can you also hear a discourse backwards, beginning at the end? This is perhaps a daring question, and apparently ridiculous, but in paradoxes where can one stop?

Light and sound.

Lumen. The paradox is only apparent. The laws of sound are essentially different from the laws of light. Sound travels only at the rate of 340 metres a second, and its effects have absolutely nothing in common with those of light. Nevertheless it is evident that if we were to advance into the air with a velocity *superior* to that of sound, we should hear inversely the sounds that left the lips of a speaker. If, for instance, some one were to recite an alexandrine, an auditor in moving with the aforesaid velocity, starting at the moment when he heard the last foot of the line, would find successively the eleven other feet which had been uttered before, and would thus hear the alexandrine backwards.

As to the theory itself, it suggests a curious reflection, that nature might have caused sound to travel, not at the rate of 340 metres a second, and that its velocity, which depends on the density and the elasticity of the air, might have been very much less. Why, for instance, might it not have been transmitted at the rate of only a few centimetres a second? Now see what would be the result if this were the case. Men would not be able to speak to one another when walking together. Let two friends be conversing, and suppose one takes a step or two in advance, or goes on, say the distance of a metre; now, if sound were to take many seconds to cross this metre, the consequence would be that, instead of hearing the phrases spoken in their right order by his friend, the foremost walker would hear in an inverse order the sounds conveying the anterior phrases. In that case we could not speak whilst walking, and three-fourths of mankind would not be able to hear one another.

These remarks, my friend, induce me to suggest to you, in this connection, for your consideration, a subject well worthy of attention, and which has hitherto received little notice—that of the adaptation of the human organism to its terrestrial environment. The manner in which man sees, in which he hears; his sensations, his nervous system, his build, his weight, his density, his walk, his functions —in a word, all his actions are regulated and constituted by the condition of your planet. None of your acts are absolutely free and independent. Man is the obedient, though unconscious, creature of the organic forces of the Earth.

The human organism derived from the Earth.

Undoubtedly the human soul, not being a function of the brain, and existing by itself, enjoys relative liberty; but this liberty is limited by its faculties, its powers, and its energies; it is determined, according to the causes which decide it, at the moment of the birth of every man. Could one know exactly the faculties of his soul and the circumstances which were to surround his life, one could write beforehand that man's life in all its details. The human organism is the product of the planet. It is not by a Divine fantasy, by a miracle, or by a direct creation that terrestrial man is constituted such as he is. His form, his figure, his weight, his sense, his whole organisation, are derived from the state or condition of your planet, the atmosphere that you breathe, the food that nourishes you, the gravity of the surface of the Earth, the density of terrestrial matter, &c. The human body does not differ anatomically from that of one of the higher mammalia, and if you go back to the origin of species, you will find gradual transformations established by unimpeachable evidence. The whole of terrestrial life, from the mollusc to man, is the development of one single and sole genealogical tree. The human form has its origin in the animal form. Man is the butterfly developed from the chrysalis of the palæontological ages. From this fact the consequence results that on other worlds organic life is different from what it is here, and that their humanities, which, like our own, are the result of forces in activity on each planet, differ absolutely in their forms from that of terres-

Organic life accords with its habitat on each planet.

trial humanity. For example, on the worlds where they do not eat, the digestive apparatus and the intestines do not exist. On the worlds which are very highly electric, the beings inhabiting them are gifted with an electric sense. On others, sight is adapted for the ultra-violet rays, and the eyes have nothing in common with your eyes; they do not see what you see, and they see what you cannot see. The organs are adapted to the functions they have to fulfil.

QUÆRENS. We are not, then, the absolute type of creation? Creation itself is, it appears, a perpetual development of forces in activity.

The soul and destiny

LUMEN. The soul itself is subject to a similar law. There are as many diversities of souls as of bodies. In order that the soul should exist as an independent being having a consciousness of itself, in order that it should preserve the recollection of its identity and be qualified for immortality, it is necessary that even in this life it should know that it really exists. Otherwise it is no more advanced the day after death than the day before death, and falls as an insensible breath into the blind cosmos, neither more nor less than any other centre of unconscious force. Many men on the Earth boast that they do not believe in anything but matter, without knowing what they say, since they do not know what matter is. These last, and those, still more numerous, who *do not think at all,* are not immortal, since they have no consciousness of their existence. The spirits who live really the spiritual life are the only ones who are fitted for immortality.

Quærens. Are there many of them?

Lumen. My friend, behold the dawn of morning which invites me anew to return into the depths of space, peopled with things unknown on Earth, that fruitful mine in which spirits find again the wrecks of past existences, the secrets of many mysteries, the ruins of disintegrated worlds, and the genesis of future worlds. And for the rest, it would be superfluous to lengthen out this recital with useless details. My object has been to show you that, in order, to have the spectacle of a world and of a system exactly opposite to yours, all that is needed is to recede from the Earth with a velocity greater than that of light. In this flight of the soul towards the inaccessible horizons of the infinite, one retraces the luminous rays reflected by the Earth and by the other planets for millions and myriads of years, and *while observing the planets at this vast* *distance one can be present* in vision *at the events of their past history.* Thus one ascends the stream of time to its source. Such a faculty ought to illuminate for you the regions of eternity with a new light. If, as I hope, you admit the scientific value of my expositions of these ultra-terrestrial studies, I look forward to unfolding to you before long their metaphysical consequences.

THIRD CONVERSATION

HOMO HOMUNCULUS

QUÆRENS. I have listened to you with interest, Lumen, without, I own, being entirely convinced that all you have told me is actually real. Indeed it is difficult to believe that it is possible to see with absolute certainty all the things of which you speak. When, for instance, there are clouds across your field of view, you cannot see clearly what passes on the Earth. The same objection obtains for the interior of houses.

Clouds no impediment to vision.

LUMEN. You are mistaken, my friend. The undulations of ether pass through obstacles that you would believe impenetrable. Clouds are formed of molecules between which rays of light frequently pass. In the contrary case, there are here and there vistas or gaps, across which one can only see obliquely. The case is very rare when nothing can be distinguished. Besides, light is not what it appears to be; it is a vibration of ether, and there are other

Light a vibration of ether.

ways of seeing than by means of the retina and the optic nerve.

The vibrations of ether are perceptible to senses other than those you possess. Therefore, if this be your sole objection, it is, I must say, far from being an insurmountable one.

Quærens. You have a special faculty for resolving all doubts. Perhaps this is one of the gifts granted to spiritual beings. I have been obliged successively to admit, that you have been transported to Capella with a swiftness exceeding that of light; that you reached another world as a spirit; that your soul is liberated from the flesh; that your ultra-earthly perception is able to distinguish from that height all that passes here; that you can advance or recede in space according to your fancy; and lastly, that the clouds themselves are no obstacles to your clearly seeing the surface of our globe. It must be owned that these are grave difficulties indeed.

Lumen. You are very material, my old friend! Should you be very surprised if I undertook to prove to you that all these difficulties exist only in name, and that all the objections which oppose themselves to your conception of phenomena are the effects of ignorance?

What should you think if I affirmed that no one has a single true idea of what takes place upon the Earth, and that man utterly fails to understand nature?

QUÆRENS. In the name of all the indisputable truths of modern science, I should dare to think that you were trying to impose upon me.

LUMEN. God forbid! Listen to me, my friend. The marvellous discoveries of contemporary science ought to enlarge the sphere of your conceptions. You have just discovered spectral analysis! By this methodic examination of a simple ray of light shot from a far-off star, you learn what are the elements which compose this inaccessible star and feed its brilliancy. This knowledge, my brother, is of more value than all the conquests of Alexander, of Cæsar, and of Napoleon, than all the discoveries of Ptolemy, of Columbus, of Gutenberg, than all the books of Moses and of Confucius. Only think, trillions of leagues span the abyss which separates us from Sirius, from Arcturus, from Vega, from Capella, from Castor and Pollux, and it is now possible to analyse the substances which constitute these suns, just as accurately as if you could take them in your hand and submit them to the crucible of the laboratory! How then can you refuse to admit that, by

The marvels of spectral analysis.

processes which are unknown to you, the soul's sight can be sufficiently piercing to see clearly a bright far-off world, and to distinguish even its smallest details? Does not the telegraph carry in an inappreciable moment your thought from Europe to America through the depths of the ocean? Cannot two people converse in a low voice at a distance of thousands of leagues, and still you hesitate to admit the truth of my narrations, because you do not altogether comprehend them? But can you explain *how* the telegraphic message is transmitted? No, you cannot. Cease then to retain doubts which have not even the merit of being scientific.

Piercing nature of the soul's sight.

Quærens. My objections, learned master, have not any other end in view than to elicit fresh light upon the subject. I am far from denying the truth of all you tell me, and I but seek to form a rational and exact idea of it.

Lumen. Be assured, my friend, I do not take any offence at your objections. My only desire is to develop and enlarge the sphere of your conceptions. I can at this very instant open your eyes to see the utter inadequacy of your terrestrial faculties, and the fatal poverty of positive science itself, by inviting you to reflect that the causes of your impressions are solely modes of motion, and that what is proudly

The inadequacy of the earthly senses.

termed *science* is only a very *limited organic perception.*

The limitations of the senses.

Light by which your eyes see—sound by which your ears hear—are different forms of motion by which you are impressed; odours, flavours, &c., are emanations which strike upon your olfactory nerve or touch your palate; these are solely vibratory motions which are transmitted to your brain. You can only appreciate a few of these movements through the senses you possess, principally those of sight and hearing. You, in your simplicity, believe that you see and hear nature? Nothing of the kind. All you do is to receive some of the movements in activity upon your sublunary atom. That is all. Beyond the impressions you receive there are an infinitely greater number unperceived by you.

QUÆRENS. Pardon, master, but this new aspect of nature is not sufficiently clear for me to understand it. Would you . . .

LUMEN. This aspect is indeed new to you, but attentive reflection will enable you to grasp it. Sound is formed by vibrations in the air which strike upon the membrane of the tympanum and give you the impression of various tones. Man does not hear all sounds. When the vibrations are too slow

The extent of the gamut *re* vibrations of sound.

(below forty a second), the sound is too low; your ear cannot catch it. When the vibrations are too rapid (above 36,000 a second), the sound is too sharp; your ear cannot receive it. Above and below these two limits, therefore, human beings do not perceive them. These vibrations exist, however, and are perceived by creatures of other kinds, as, for example, certain insects. The same rules apply to light. The different aspects of light, the shades and colours of objects, are equally due to the vibrations which strike upon the optic nerve and give you the impression of the different degrees of intensity in light. Man does not by any means see all that is visible. When the vibrations are too slow (under 458 billions a second), light is too feeble; your eye sees nothing. When the vibrations are too rapid (over 727 billions a second), light outruns your organic faculty of perception and is invisible to you. Above and below these two limits the vibrations of ether still exist, and are perceived by other beings. You do not know therefore, nor can you receive, any impressions except those that can be made to vibrate upon the two chords of your organic lyre, called respectively the optic nerve and the auditory nerve.

The extent of the vibrations of light.

Imagine for one instant the extent of all the sights and sounds which are not perceptible to you. All the undulatory movements that exist in the universe between the figures of 36,000 and those represented by 458,000,000,000,000 in the same unity of time, can neither be heard nor be seen by you, and remain utterly unknown to you.

Try to measure that distance! Contemporary science is beginning to penetrate a little into this invisible world, and you know that it has just calculated the vibrations below 458 billions (these are the caloric invisible rays) and the vibrations above 727 billions (these are the chemical rays, also equally invisible to the human eye). Scientific methods can enlarge the sphere of the perceptions but a little; you remain isolated in the midst of infinitude. Moreover, an endless number of other vibrations exist in nature which have no *correspondence* with your organisation, and therefore cannot be received by you, *consequently you remain for ever utterly ignorant of them.* Did you possess other strings to your lyre—ten, a hundred, a thousand—the harmony of nature could more completely translate itself to you, each of the myriad vibrations according to their kind. You would perceive a number of facts which are certainly passing around you, whose very existence you cannot even now guess, and in place of two dominant notes you would be conscious of the grand concert of harmonies everywhere about you.

Man deaf to the concert of universal harmonies by reason of his limitations.

But although thus ignorant, you are unconscious of it, because all around you are equally ignorant, and therefore it is impossible to compare your limited faculties with those of beings much more highly organised.

The senses you do possess suffice, however, to indicate the existence of other senses, not only more powerful, but of a totally different order. By the sense of touch, for example, you can, it is true, feel the sensation of *heat;* but it is easy to conceive the existence of a special sense, analogous to that by which light reveals to you the aspect of exterior objects, and which would render man capable of judging of the form and substance of an object, its interior structure, and other qualities, by the action of the caloric waves radiating from it. The same reasoning would hold good on the subject of *electricity*. You could equally well conceive the existence of a sense, endowing the eye with the powers of a spectroscope and telescope in one, thus enabling it to see the *chemical* elements, of which bodies are composed.

Were the eye a combined spectroscope and telescope, it would see the chemical elements composing bodies.

Thus already, from a scientific point of view, you have sufficient ground for imagining modes of perception, quite different from those which characterise human beings. These faculties exist in other worlds, and there are endless ways of perceiving the action of the forces of nature.

Quærens. Certainly, master, I own that as you unfold these possibilities a new and singular clearness enlightens my understanding, and your teachings appear to me a true interpretation of the reality. I had already dreamed that similar marvels might be possible, but I had not been able to explain them, enveloped as I still am in my terrestrial senses. One thing is certain, we must be lifted out of our earth-bound limitations ere we are capable of comprehending, or even of attempting to judge, of the scope of the universe.

Our terrestrial senses are limited.

Thus, being endowed with only a few limited senses, we can but know the facts that are perceptible to them. The remainder is naturally unknown. Can it be that the unknown is infinitely more than the known?

Lumen. This "remainder" is immense, and all you at present know will seem as nothing by comparison. Not only do your senses not perceive physical movements—such as solar and terrestrial electricity whose currents cross in the atmosphere, the magnetism of minerals, of plants, and of beings, the affinities of organisms, &c., which are invisible to you—but they perceive still less the movements of the moral world, its sympathies and antipathies, its presentiments, its spiritual attractions, &c. I only speak the simple truth when I say, that all that you know, and all that you could know, through the medium of your earthly senses, is as nothing compared to that which is.

The ordinary senses are insensible to many physical movements.

This truth is so profound that it might well be asserted, that beings exist upon the Earth essentially different from you, possessing neither eyes, nor ears, nor any of your senses, but endowed with *other* senses, and capable of perceiving that which you cannot perceive, and who, while living in the same world as yourself, know that which you cannot know, and form an idea of nature completely at variance with your own.

Beings exist with other than our senses.

QUÆRENS. All this is utterly beyond my comprehension.

LUMEN. Moreover, my earthly friend, I can add most emphatically that the perceptions you receive, and that constitute the bases of your science, are not even the perceptions of the *reality*. No. Light, lucidity, colours, looks, tones, noises, harmonies, sounds, perfumes, flavours, apparent qualities of bodies, &c., are nothing but *forms*.

These forms enter into your mind by the avenue of the eye, and the ear, by the senses of smell, and taste, and are represented to you by their appearances, but not even by the essence of the things themselves.

The real nature of things entirely escapes your understanding, and you are utterly incapable of comprehending the universe.

Matter is not solid.

Matter itself is not what you believe it to be. To speak absolutely, there is not anything that is *solid;* your own body, a piece of iron or of granite, are not more solid than the air you breathe. All these things are composed of atoms which do not touch each other, and which are in perpetual movement. The Earth, atom of the Heavens, moves in space with a swiftness of 643,000 leagues a day; but, in proportion to their dimensions, each atom which constitutes your own body and that circulates in your blood, moves much more quickly. If your vision were sufficiently powerful to see through this stone, you would no longer see it thus, because your sight would pass through and beyond it . . .

But I see by the disturbance of your brain, and the rapid movements of the fluid which crosses your closely-concentrated lobes, that you no longer understand my revelations. I will not then pursue this subject which I have thus merely lightly touched upon, with the end in view of thereby demonstrating how greatly you would err, did you attach any importance to difficulties born of your terrestrial sensations, and to assure you that neither you nor any man upon the Earth could form even an approximate idea of the universe. What is earthly man but a mere pigmy! Ah! if you were but acquainted with the organisms which vibrate upon Mars or upon Uranus; if it had but been granted to you, to appreciate the senses in action, upon Venus and upon a ring of Saturn; if during centuries of travel you had been permitted to glance at and observe the forms of life in the systems of the double stars; at the sensations of sight in the coloured suns, to glean the impressions of an electric sense, of which you can know absolutely nothing, in the groups of multiple suns; if a suitable comparison of this ultra-terrestrial state had furnished you with the elements of a fresh knowledge, you would then have comprehended that beings exist—who can see, hear, feel, or, to be more accurate, understand nature without

How man errs in thinking his limited sensations describe those of the universe.

The difference of organisms on Mars, Uranus, &c.

eyes, without ears, without sense of smell; that an incredible number of other senses exist in nature, senses essentially different from yours; and that there are in creation an incalculable number of marvellous facts which it is absolutely impossible for you to imagine. In this general contemplation of the universe, my friend, one perceives the solidarity—the tie which unites the physical with the spiritual world; one sees from a higher ground the instinctive strength which raises certain souls, tried by the coarseness of matter but purified by sacrifice, towards the higher regions of spiritual light; and one understands how immense is the happiness reserved for those beings, who, even while on Earth, have succeeded in gradually overcoming their lower nature.

The tie uniting the physical and spiritual world

QUÆRENS. To return to the transmission of light in space. Does not light lose itself at last? Does the aspect of the Earth remain eternally visible, and never, on the contrary, diminish in proportion to the square of distance, thus becoming finally annihilated?

LUMEN. Your expression "at last" is without meaning, because there is no end in space.

The word end applied to space meaning less

Light becomes attenuated, it is true, with distance, the scenes become less vivid, but nothing is lost entirely. Any number, whatever it may be, perpetually reduced by half, for example, can never become equal to zero. The Earth is not visible to all eyes at a certain distance. Nevertheless it still exists, even though it may not be seen by all; and only spiritual sight can see it.

Besides, the image of a star, borne upon the wings of light, goes into the unfathomable depths of the mysterious abysses of space.

Vast regions exist without stars.

Vast regions exist in space without stars, regions decimated by time, whence worlds have been successively removed by the attraction of exterior suns. The image of a star in crossing these dark abysses, would be in a condition analogous to that of a person, or object, that the photographer had forgotten and left in the *camera.*

It is not impossible that such images encounter in these vast spaces an obscure star (celestial mechanics state the existence of many such) in a special condition whose surface (formed perhaps of iodine, if one is to credit spectral analysis) would be sensitised, and capable of fixing upon itself the image of this far-off world.

Thus terrestrial events might be printed upon a dark globe. And if this globe turns upon itself, like other celestial bodies, it would present successively its different zones to the terrestrial image, and would thus take a sort of continuous photograph of successive events.

Images of this world's events photographed spirally upon other globes in space.

Following moreover, in ascending, or descending, a perpendicular line to its equator, the line where the images were reproduced would no longer be described in a circle, but in a spiral; and after the first movement of rotation was finished, the new images would not coincide with the old ones, nor superimpose them, but would follow above and below. The imagination could now suppose that this world is not spherical, but cylindrical, and thus see in space an imperishable column around which would be engraved the great events of the world's history.

I have not myself seen this realisation. It is so short a time since I left the Earth, that I have barely done more than glance superficially at these celestial marvels. Before long I shall seek to verify this fact, and see if its reality does not form a part of the infinite richness of the astral creations.

Quærens. If the ray which leaves the Earth is never *destroyed,* master, our actions are then eternal?

Lumen. Certainly they are.

An act once accomplished can never be

Actions carried for ever on rays of light.

effaced, and no power can ever cause it to be as if it had never been. Say that a crime is committed in the heart of a desert country. The criminal goes far away, remains unknown, and supposes that the act which he has committed has *passed* for ever. He has washed his hands of it, he has repented, he believes his action *obliterated*. But in reality nothing is destroyed. At the moment when this act was accomplished, the light seized it and carried it into space with the rapidity of lightning. It became incorporated in a ray of light; eternal, it will transmit itself eternally into infinitude.

Likewise a good action is done in secret; the benefactor thinks it is concealed, but a ray of light has taken possession of it. Far from being forgotten, it will live for ever.

Napoleon, in order to satisfy his personal ambition, was voluntarily the cause of the death of five millions of men, whose ages averaged about thirty years, and who, according to the laws of life, had thirty-seven more years to live. Therefore, by this calculation, he caused the destruction of 185 millions of years of human life.

His chastisement, his expiation, consists in being carried along by that ray of light which left the plains of Waterloo on the 18th June 1815, and to be ever moving in space with the quickness of light itself; to have constantly in sight that critical scene, where he saw for ever crumbling to pieces the scaffolding of his vain ambition; to feel, without respite, the bitterness of despair; and to remain bound to this ray of light for the 185 millions of years for whose destruction he was responsible. By thus acting, in place of worthily fulfilling his mission, he has retarded for a similar length of time his progress in the spiritual life.

Napoleon's punishment.

And if it were given to you to see that which goes on in the moral world, as clearly as you now see that which passes in the physical one, you would recognise vibrations and transmissions of another nature, which imprint in the arcana of the spiritual world, not only the actions, but even the most secret thoughts.

QUÆRENS. Your revelations, Lumen, are awful! Thus, our eternal destinies are intimately bound up with the construction of the universe itself. I have many times speculated upon the problem of communication between the worlds by the aid of light. Many physicists have supposed that it will be possible to establish communication between the Earth and the Moon, and even the planets, by the

Speculation upon the problem of communication by luminous signals between the Earth and stars.

aid of luminous signals. But suppose one could make signs from the Earth to a star, by employing the light, for example, a hundred years must come and go before the signal from the Earth could reach its destination, and the response could only return after the same interval of time had elapsed. Two centuries must consequently elapse between the question and its answer. The terrestrial observer would have died long before his signal could have reached his sidereal observer, and the latter would doubtless have undergone a similar fate before his answer could have been received!

An interval of two centuries between question and answer.

LUMEN. It would, in fact, be a conversation between the living and the dead.

QUÆRENS. Pardon a last question, master—one perhaps a little indiscreet, but a last one, for I see Venus is paling, and I feel that your voice will soon cease to be heard. If actions are thus visible in ethereal regions, we can then see, after our death, not only our own actions, but also those of others—I mean those which specially interest us?

For instance, a pair of twin souls, dwelling in perfect unity, would like to see again for a thousand years the delightful hours passed together on the Earth; they would rush into space with a rapidity equal to that of light, in order to have always before their eyes the same hours of joy.

In another sense, a husband would trace with interest the entire life of his companion; and should some unexpected situation have presented itself, he could at leisure examine the causes leading to the same. He might even, if his disembodied companion resided in some neighbouring region, call upon her to observe, in common with himself, these retrospective incidents.

No denial could be admissible before such palpable evidence, and might not this power exercised by these spirits give rise to some strange revelations?

Lumen. You are very earthly, my friend, to think that in the Heavens memories of a material kind will be valued, and I am astonished that you can continue to think them of importance. What should specially strike you in all we have said during these two interviews is, that by virtue of the laws of light, we can see events after they have been accomplished, although they are past, and indeed when they have entirely vanished.

Quærens. Believe me, master, this truth will never more be effaced from my memory.

It is precisely this point which I find so exceedingly marvellous.

Forget, I pray you, my last digression.

To say the truth, that which from our first interview has most taxed and surpassed the bounds of my imagination, was to think that the duration of the voyage of the spirit can be not only *nil*—negative—but also *retrograde!*

"Time retrogressive!" These two words involve a contradiction in terms. Dare one believe it?

Time retrogressive.

You start to-day for a star, and you arrive yesterday! What do I say—yesterday? You will arrive there seventy-two years ago, even a hundred years ago! The farther you go, the sooner you will arrive! Terms in grammar must be remade for such extraordinary reckoning.

LUMEN. This is undeniable.

Speaking according to terrestrial style, there is not any error in this mode of expression, since the Earth was only in 1793, &c., for the world in which we arrived, or for the world which we reached.

You have, however, on your little globe certain apparent paradoxes, which give an idea of this one.

Apparent paradoxes anent time.

For example, a telegram sent from Paris at noon arrives at Brest twenty minutes before noon. But these curious aspects of particular application are not of sufficient significance for you to dwell upon, but rather the *revelation* of which they are the metaphysical form and the outward expression. Know that time is not an absolute reality, but only a transitory measure caused by the movements of the Earth in the Solar System.

Regarded with the eyes of the soul, and not with those of the body, this picture of human life, not imaginary but real, such as it was, dissimulation being impossible, touches on one side the domain of theology, inasmuch as it explains physically a mystery hitherto inexplicable: I mean "individual judgment" of ourselves after death.

From the point of view of the whole question, the present of a world is no longer a momentary actuality, which disappears as soon as it has appeared, it is no longer a phase without consistency, a gate through which the past is precipitated unceasingly towards the future, a mathematical plan in space. It is, on the contrary, an effective reality, which flies away from this world with the swiftness of light, sinking for ever in the infinite, and remaining thus an *eternal present.*

Events live for ever.

The metaphysical reality of this vast problem is such, that one can now conceive the omnipresence of the world throughout all its duration. Events vanish from the place in which they were born, but they exist in space. This successive and endless projection of all the facts enacted upon every world takes place in the bosom of the *Infinite Being,* whose ubiquity holds everything in an eternal permanence.

Scientific explanation of ubiquity.

The events which have been accomplished upon the surface of the Earth since its creation are visible in space at distances proportioned to their remoteness in the past. The whole history of the globe, and the life of each one of its inhabitants, could thus be seen at a glance by an eye which could embrace that space. We thus understand optically, as it were, that the eternal Spirit, present everywhere, can see all the past at one and the same moment.

That which is true of our Earth is true of all the worlds in space. Thus the entire history of the whole universe can be present at once to the universal ubiquity of the Creator. I may add that God knows all the past, not only in consequence of this direct sight, but also by the knowledge of each thing in the present. If a naturalist, such as Cuvier, knows how to reconstruct, by the aid of a fragment of bone, any species of extinct animals, surely the Author of Nature knows by the present Earth the Earth which is past, the Planetary System, and the Sun of the past, and all the conditions of temperatures, aggregations, and combinations, by which the elements have produced the complex condition of things at present in existence.

Present, past, and future, all one.

On the other hand, the future can be as completely present to God in its actual germs, as the past is in its fruits.

Each event is bound in an indissoluble manner with the past and the future.

The future will be as inevitably the outcome of the present, and is, as logically deducible from it, and exists in it as exactly, as that the past itself is therein inscribed for those who are able to decipher it. But—and I emphasise it—the main point of this recital is to state, to make you understand, that the past life of all worlds, and of all beings, is always visible in space, thanks to the successive transmission of light across and through the vast regions of the infinite.

FOURTH CONVERSATION

ANTERIORES VITÆ

Quærens. Two years have fled, Lumen, since the day when you granted me that mysterious interview. During this period, unconsciously for the inhabitants of eternal space, but most consciously for us dwellers upon the Earth, I have often raised my thoughts to the great problems in which you have initiated me, and to the horizons developed before my mind's eye. Doubtless, also, since your departure from the Earth you have made, through your observations and studies, great advance upon a field of research more and more vast. Doubtless, also, you have numberless marvels to declare to me, now that my intelligence is better prepared to receive them. If I am worthy, and if I can comprehend them, give me an account, Lumen, of the celestial voyages which have transported your spirit into the higher spheres; of the unknown truths which they have revealed to you; of the grandeurs

New horizons.

which they have opened out to you, and of the principles they have taught you in reference to that mysterious subject, viz., the destiny of man, and other beings.

LUMEN. I have prepared your mind, my dear old friend, to receive marvellous impressions, such as no earthly spectacle ever has, or could produce. It is, nevertheless, necessary that you should keep your understanding free from all earthly prejudice. That which I am going to unfold will astonish you, but receive it from the first with attention as an undeniable truth, and not as a romance. This is the first condition that I demand from my earnest pupil. When you comprehend—and you will comprehend, if you bring to the task a mathematical mind and an unprejudiced spirit—you will see that all the facts which constitute our ultra-terrestrial existence are not only possible, but also real, and moreover, are in perfect harmony with our intellectual faculties as already manifested upon the earth.

QUÆRENS. Be assured, Lumen, that I bring to you an open mind, cleared from all prejudice, and I am eagerly expecting to hear revelations such as the human ear has never before heard.

LUMEN. The events which will form the

subject of this recital have not only the Earth and its neighbouring stars for their subject, but they will extend over immense fields of sidereal astronomy, and make us acquainted with their marvels. Their explanation will be solved, as was that of former difficulties, by the study of *light*, a magic bridge thrown from one star to another, from the Earth to the Sun, from the Earth to the stars—of *light*, the universal movement which fills space, sustains worlds in their orbits, and constitutes the eternal life of nature. Take care, then, to keep ever in mind, the fact of the *successive transmission of light in space.*

Space and Light.

QUÆRENS. I know that light, whatever it may be, is the agent by which objects are rendered visible to our eyes, that it is not transmitted instantaneously from one point to another, but gradually, like all motion. I know that it flies at the rate of 75,000 leagues a second, that it runs 750,000 leagues in ten seconds, and 4,500,000 each minute. I know that it takes more than eight minutes to cross the distance of 37 millions of leagues which separate us from the Sun. Modern astronomy has made these facts familiar.

Velocity of Light.

LUMEN. Do you perfectly realise its undulatory movement?

Undulatory movement of Sound.

Quærens. I think so. I compare it to that of sound, although it be accomplished upon a scale incomparably more vast. By undulation following undulation, sound is diffused in the air. When the bells peal forth their sonorous sound, this is heard at the very moment when the clapper strikes the bell, by those living round the church, but is not heard till one second after, by those living at a distance of 492 yards; two seconds later by those at 765 yards; and three seconds later still, by those at a distance of 1093 yards from the church. Thus sound only gradually reaches one village after another as far as it can go.

In the same way light passes successively from one region in space to another at a greater distance, and travels without being extinguished into the far-off realms of Infinity. If we could see from the Earth an event which is being accomplished upon the Moon; for instance, if we had sufficiently good instruments to perceive from here, a fruit falling from a tree on the surface of the Moon, we should not see the fact at the *moment of its occurrence*, but one second and a quarter *after*, because light requires about that time to travel the distance from the Moon to the Earth. Similarly, could we see an event taking place upon a world at ten times greater distance than the Moon, we could not witness it until 13 seconds after it had really happened. If this world were a hundred times farther off than the Moon, we could not see an event until 130 seconds after it had taken place; were it a thousand times more distant, we should not see it until 1300 seconds, or 21 minutes 40 seconds had elapsed. And so on according to the distance.

Time taken by Light in travelling from the Earth to the star Capella.

Lumen. Exactly, and you are aware that the luminous ray sent to the Earth by the star *Capella* takes seventy-two years in reaching it. It follows, therefore, that if we only receive the luminous ray to-day, which left its surface seventy-two years ago, the denizens of Capella see only that which happened on the Earth seventy-two years ago. The Earth reflects in space the light that it gets from the Sun, and from a distance, appears as brilliant as Venus and Jupiter appear to you, planets lighted by the same Sun that lights the Earth. The luminous aspect of the Earth, its photograph, journeys in space at the rate of 75,000 leagues a second, and only reaches Capella after seventy-two years of incessant travel. I recall these elementary principles in order that you may have them thoroughly fixed in your memory; you will then be able to comprehend, without difficulty, the facts which have happened to me during my ultra-terrestrial life since our last interview.

Quærens. These principles of optics are, to my mind, clearly established. The day after your death in October 1864, when, as you have confided to me, you found yourself rapidly transported to Capella, you were astonished to arrive there at the moment when the philosophical astronomers of the country were observing the Earth in the year 1793, and witnessing one of the most significant acts of the French Revolution. You were not less surprised to see yourself again as a child, running about in the streets of Paris. Then, leaving Capella and coming nearer to the Earth, you arrived at the zone where that part of the terrestrial photography passed before your vision, which showed you your infancy, and you saw yourself at six years of age, not in memory, but in reality. Out of all your previous revelations, this is the one I had the most difficulty in believing—I mean, in grasping its meaning.

Lumen. That which I now wish to make you comprehend is stranger still. But it was first necessary for you to admit that one, before I could adequately reveal to you this one.

On leaving Capella and approaching the Earth, I saw again my seventy-two years of earthly existence, my entire life such as it had been, passed before me; for, in approaching the Earth, I passed through successive zones of earthly scenes, where I saw spread out as in a scroll the visible history of our planet, because in going back towards the Earth, I was continually meeting the various zones which carried through space the visible history of our planet, comprising that of Paris as well as my own, for I was there. Taking thus in one day a retrospective survey of the road which it had taken light seventy-two years to traverse, I had reviewed my whole life in that one day, and I perceived even my own interment.

Retrospective survey of life on Earth.

QUÆRENS. It is as if, on returning from Capella to the Earth, you had seen, as in a mirror, the seventy-two years of your life photographed year by year. The one the farthest from the Earth, but which had started the first, and was the oldest, showed events as they were in 1793; the second, which left the Earth a year later, and had not yet reached Capella, contained those of 1794; the tenth, those of 1803; the thirty-sixth, having reached midway on the road, gave those of 1829; the fiftieth, those of 1843; the seventy-first, those of 1864.

Lumen. It is impossible to have better grasped these facts, which seem so mysterious and incomprehensible at first sight. Now I can recount to you that which happened to me upon Capella, after having thus witnessed over again my existence on the Earth.

I

Lumen. Whilst not very long ago (but I can no longer express that time by earthly measurements), in a melancholy region of Capella, I was contemplating the starry heavens at the beginning of a clear night, occupied in noting the star which is your earthly Sun, and near it the little azure planet, your Earth, I observed one of the scenes of my childhood—my young mother seated in the midst of a garden, holding an infant in her arms (my brother), having at her side a little girl of two summers (my sister), and a boy two years older (myself). I saw myself at that age when man is not yet conscious of his intellectual existence, though he bears even then upon his brow the germ of future promise. Whilst dreaming of this singular spectacle, which showed *me* myself at the entrance of my earthly career, I felt my attention drawn from your planet by a superior power, and directed towards another point in the heavens, which, even at that moment, seemed to be linked with the Earth and my career there, by some mysterious tie. I could not turn my gaze from this new point in the the heavens, my eyes being, as it were, chained to the spot by some magnetic power I was unable to resist. Several times I endeavoured to withdraw my eyes, and to fix them on the Earth I love so well; but in vain, for I was ever re-attracted to the same unknown star.

This star, upon which my eyes sought instinctively to divine something, belongs to the constellation of *Virgo*, whose form varies slightly as seen from Capella. It is a double star, that is to say, an association of two suns, one of a silvery whiteness, the other of a bright golden yellow, which revolve round one another once in 175 years. This star can be seen from the Earth with the naked eye, and its sign is the letter γ (*Gamma*), in the constellation of Virgo. Around each of the suns which form it there is a planetary system.

The star Gamma in Virgo.

Life on the planet of Virgo.

My sight was fixed upon one of the planets belonging to the golden sun. On that planet there are animals and vegetables as upon the Earth; their forms bear a similarity to earthly ones, although there is an essential difference in their organisms. Their animal kingdom is analogous to yours; they have fishes in the seas, quadrupeds in the air, in which men can fly without wings, by reason of the extreme density of the atmosphere. The men of this planet possess almost the same form as those on the Earth, but no hair grows upon their heads, and they have three large thin thumbs instead of five fingers on their hands, and three great toes at the heel in place of soles to their feet, the extremities of their arms and legs being supple as india-rubber. They have, nevertheless, two eyes, a nose, and a mouth, which give them their resemblance to earthly beings. They have not two ears, one on each side of the head, but one only, in the shape of a cone, which is placed on the upper part of the skull like a little hat.

They live in societies and wear clothing. Thus, you see, in their exterior they differ little from the inhabitants of the Earth.

Quærens. Are there, then, in other worlds beings entirely distinct from us, but who, notwithstanding their dissimilarities, can be compared with us?

Lumen. A distinction profound and unimaginable by you separates in general the animal life of the different worlds. *These forms are the result of elements special to each globe, and of the forces which regulate them:* matter, density, weight, heat, light, electricity, atmosphere, &c., differ essentially on each globe. Even in the the same system these forms differ.

Thus the men of Uranus and Mercury do not in any way resemble the men of the Earth; those who see them for the first time cannot perceive that they possess either head, members, or senses. On the contrary, the forms of those in the planetary system of Virgo, towards which my attention was being persistently drawn, are nearly similar to those of the inhabitants of the Earth, whom they also resemble morally and intellectually. Slightly inferior to ourselves, they belong to that scale in the order of souls which immediately precedes that of terrestrial humanity as a whole.

The system of Gamma in Virgo.

Quærens. Yet there is a wide divergence between human beings themselves in all that pertains both to intellect and morals. We in Europe differ greatly from the tribes of Abyssinia and from the savages of the Oceanic Isles.

What people do you take as a type of the highest degree of intelligence on the Earth?

The Arabs and their intelligence.

LUMEN. The Arabs. They are capable of producing their Keplers, their Newtons, their Galileos, their Archimedes, their Euclids, their D'Alemberts. Besides, they sprang from those primitive hordes whose roots reach down to the bed rock of humanity. But it is not necessary to choose a people for a type. It is better to consider modern civilisation as a whole. Nor is there so marked a distance as you appear to suppose, between the brain capacity of a negro and that of the Latin race.

However, if you insist upon a comparison, I can assure you that the men of the planet of Virgo are almost on a par intellectually with the Scandinavians.

Vital difference between Virgo and the Earth.

The most vital difference which exists between their world and the Earth, *is the absence of sex.* Neither plants, animals, nor human beings have sex. Generation is effected spontaneously, as the natural result of the union of certain physiological conditions in some of the fertile isles of this planet, man not being formed in the womb of his mother as upon earth. It would be useless to explain the process, to one whose earthly faculties prevent him comprehending the facts of a world distinctly different from his own. It results from this organic arrangement, that marriage in any form does not exist in this world, and that the friendships between human beings are never mixed with the carnal desires, which are inevitably manifested on the Earth between people of different sexes, even when the attraction is most pure. Probably you will remember that during the protozoic period, the inhabitants of the Earth were all deaf, dumb, and sexless. The division into sexes took place much later in the history of Nature both among animals and plants.

Being attracted towards this far-off planet I attentively examined its surface with my spiritual sight, and I was specially drawn, without knowing the cause, to a white city, resembling from afar a region covered with snow; but it is improbable that it was snow, as it is unlikely that water can exist on that globe in the same physical and chemical conditions as upon the Earth. Upon the borders of this city an avenue led to a neighbouring wood of yellow trees. I soon remarked three persons who seemed to be slowly sauntering towards this wood. This little group was formed of two friends, who were in close conversation, and of a third, who differed from both by his red garment and the burden he bore, and who was probably their servant, their slave, or some domestic animal. Whilst intently regarding the two principal personages, I observed the one to the right raise his face to the sky, as if some one had called him from a balloon, and turn his gaze towards Capella, a star which, doubtless, he did not see, because for him it was then daylight. Oh, my old friend, I shall never forget the sudden surprise this sight gave me! I can still scarcely believe that I was not dreaming . . .

This person on the planet of Virgo, who was looking towards me without knowing it, was . . . Can I tell you? Well, it was *myself!*

Quærens. How *yourself?*

Lumen. Yes, my very self. I recognised myself instantly, and you can judge of my surprise!

Quærens. Certainly I can. I cannot comprehend it at all.

Lumen. The fact is, the situation was so entirely novel that it demands explanation. It was in truth myself, and I was not long in finding out, not only that it was my former face and figure, but also that the person walking by my side was my dear Kathleen, an intimate friend, and the companion of my studies upon that planet. My gaze followed them as far as the Yellow Wood, across picturesque valleys, beneath golden cupolas, under trees covered with large orange-tinted branches, and through hedges of elms with amber-coloured leaves. A purling brook babbled on the fine sand, and we seated ourselves on its banks. I recall sweet hours we have passed together, the happy years which have glided away in this far-off country, the fraternal confidences, and the impressions we shared, in the midst of woodland scenes, of silent plains, of mist-covered hills, and of little lakes which smilingly reflected the heavens. With aspirations raised towards all that was grand and sacred in nature, we adored God in His works. With what joy I saw again this phase of my previous existence, and riveted anew the golden chain, whose links life on Earth had broken!

Anterior existence

In truth, dear Quærens, it was my very self who then was living on that planet of Virgo. I really saw myself, and I could follow in sequence the events of my life and the happiest moments of that existence, now so far remote.

Besides, if I had had any doubt of my identity, the uncertainty would have ceased during my observation, for whilst pondering upon the matter, I saw Berthor—my brother during that existence—come out of the wood, approach us, and join in our conversation by the side of the murmuring brook.

QUÆRENS. Master, I fail still to comprehend how you could really see yourself on that planet of Virgo. Were you then gifted with ubiquity?

Could you, like Francis of Assisi or Apollonius of Tyana, be in two places at the same time?

Scientific explanation of anterior life on Virgo.

LUMEN. Certainly not. But in examining the astronomical co-ordinates of the Sun Gamma in Virgo, and knowing its parallax as seen from Capella, I came to the conclusion that the light from this Sun could not employ less than 172 years in traversing the distance which separates it from Capella.

I was then actually receiving the luminous ray which left that world 172 years before. And it so happens that at that epoch I was absolutely living upon the planet of which we speak, and that I was then in my twentieth year. In verifying these periods, and in comparing the different planetary styles, I found, in fact, that I was born on the world of Virgo in the year 45904 (which corresponds to the year 1677 of the Christian era on Earth), and that I died—through an accident—in the year 45913, which corresponds to the year 1767. Each year of this planet equals ten of yours. When I saw myself, as I have just told you, I appeared to be about twenty years of age according to earthly reckoning, but following the way of reckoning on that planet, I was only two years old. There the age of fifteen years is often reached, which is considered the limit of life on that globe, and is equivalent to 150 years on the Earth.

Light takes 172 years to travel from Virgo to Capella.

The luminous ray, or, to speak more accurately, the aspect or photograph of the world of Virgo, takes 172 earthly years to traverse the immense space which separates it from Capella; consequently, upon finding myself upon this last star, I was receiving at that very moment the image which left the constellation of Virgo 172 years previously. And although things have changed greatly, though generations have followed generations, though I died there myself, and have had time to be born again and live seventy-two years on the Earth, nevertheless light had taken all this time to cross the space which separates Virgo from Capella, and was bringing afresh to me impressions of events long passed away.

Quærens. This duration of the passage of light being proved, I have not any objection to urge on this point, but I frankly own that to credit an experience of such amazing singularity, taxes my imagination beyond its just limits.

Lumen. This is not any imagination, my old friend. It is a reality, eternal and sacred, holding its fixed place in the universal plan of creation. The light of every star, direct or reflected—say otherwise, the aspect of each Sun, and of each planet—is diffused in space, according to a rate of rapidity already known to you, and the luminous ray contains in itself all that is visible. As nothing can be lost, the history of each world is contained in the light which incessantly emanates from it in successive waves, eternally travelling into infinite space without any possibility of its being annihilated. True, the terrestrial eye cannot read it; but there are eyes immeasurably superior to your earthly ones.

The history of each world is contained in the rays of light.

I make use of the terms *sight* and *light*, in these conversations, in order that you may comprehend me; but, as I told you in a previous communication, speaking absolutely, there is not such a thing as light, only vibrations of ether; neither is there any sight, only percep-

Light is vibrations of ether; Sight, perceptions of thought.

tions of the mind. Moreover, even upon the Earth, when you examine the nature of a star with a telescope, or better still with a spectroscope, you well know it is not its actual state you have before your eyes, but its past state, transmitted to you by a ray of light which left it, perhaps, ten thousand years ago. You know, besides, that a certain number of stars, of which your astronomers on the Earth are seeking to determine the physical and numerical properties, and which shine brilliantly over your heads, have long ago ceased even to exist—may indeed have ceased to exist since the beginning of your world.

Quærens. We know this is so. Thus you have seen, unrolled before your eyes, your existence previous to the last one, 172 years after it had flown by.

Lumen. Say rather one phase of this existence; but I could have been able, and could now indeed review my entire life by going closer to that planet, as I have already done for my terrestrial existence.

Quærens. So, through the medium of light, you have really seen again your last two incarnations?

Lumen. Precisely; and what is more, I have seen them, and continue to see them, *simul-*

taneously, side by side as it were of one another.

Quærens. You see them again both at the *same time?*

Lumen. This fact is easily explained. The light from the Earth takes seventy-two years to reach Capella. The light from the planet of Virgo, being once and a half farther off than Capella, takes once and a half longer time to travel, which would make it about 172 years. As I lived seventy-two years upon the Earth, and one hundred years before that upon the other planet, these two periods reach me at precisely *the same time* upon Capella. Thus by simply looking at these two worlds, I have before me my last two existences, which unroll themselves as if I were not here to see them, and without my being able to change any of the acts that I see myself upon the point of accomplishing, either upon the one or the other, since those acts, although present and future to my actual observation, are in reality past.

Quærens. This is indeed a strange experience!

Lumen. But what struck me most in this unexpected observation of two of my previous existences in two different worlds, thus unrolled before me, was the odd resemblance between these two lives. I found that I had almost the same tastes in the one as in the other, the same passions, the same errors. Nothing criminal, nothing saintly in either.

Explanation of inherent tastes.

Furthermore (extraordinary coincidence), I have witnessed scenes in the first analogous to those I have seen upon the Earth. This explains the innate tastes I brought into the terrestrial world, for the poetry of the North, the poems of Ossian, the dreamy landscape of Ireland, for its mountains and its Aurora Borealis. For Scotland, Scandinavia, Sweden, Norway with its fiords, Spitzbergen with its solitudes—all alike attracted me. Old towers in ruins, rocks and wild ravines, sombre pines soughing with the northern winds—all these appealed to me on the Earth, and seemed to have some mysterious link with my deepest thoughts. When I saw Ireland for the first time, I felt as if I had lived there before. When for the first time I ascended the Rigi and the Finsteraarhorn, and saw the superb sunrise over the snowy summits of the Alps, it seemed as if I had previously seen all this. The spectre of the Brocken was not new, the reason being that I had in a former life inhabited similar regions on the planet of Virgo. The same life, the same actions, the same circumstances, the same conditions—analogies, analogies! Almost all that I have seen, done, thought on the Earth, I had already seen, done, thought a hundred years before upon that anterior world. I had always suspected it! Taking it altogether, however, my terrestrial life as a whole was superior to the one preceding it. Each child in coming into the world brings with him different faculties, special predispositions, innate dissimilarities, which no one denies, and can only be explained to the philosophical mind,—or in view of eternal Justice,—by the supposition of works previously accomplished by free souls.

But though my terrestrial life was superior to its anterior one, evincing, as it did, a more accurate and profound knowledge of the system of the World, it yet lacked, I am bound to state, the possession of certain moral and physical qualities which belonged to me in my former existence.

On the other hand, I had faculties on that World which I had not had upon the Earth. I may cite one specially, that of flying.

Flying without wings.

I see that on the planet of Virgo I could fly, just as easily as walk, and this without either aeronautic apparatus or wings, by simply stretching my arms and legs, as if I were swimming in the water. On closely examining the mode of locomotion in use on that planet, I see clearly that I have (or rather had) neither wings, balloon, nor any kind of mechanical appliance. At a given moment I spring from the ground by a vigorous leap, and, spreading out my arms, sail in the air without fatigue. At other times, descending a steep mountain on foot, I spring out into space, with feet pressed together, and float at will, with a slow and oblique motion, to any point I wish, standing upright as soon as my feet touch the ground.

Then again, when I wish to do so, I fly slowly in the manner of a dove which describes a curve in returning to its dovecot. All this I distinctly see myself doing in this world. Not once, but a hundred, a thousand times have I thus felt myself transported in my dreams on Earth softly, naturally, and without apparatus. How can such impossibilities so often present themselves to us in our dreams? Nothing can explain them, for nothing analogous exists upon this earthly globe. Obeying instinctively this innate tendency, I have frequently soared into the atmosphere suspended from the car of a

Dreams bring reminiscences of a former existence.

balloon, but the sensation is not the same; *one does not feel one's self* flying; on the contrary, one has the feeling of being stationary.

I now have the key to my dreams. During the slumber of my terrestrial senses my soul had reminiscences of its anterior existence.

Quærens. But I also often feel, and see myself flying in dreams in precisely the way you describe, without wings or machinery, and simply by an effort of will. Is this, then, a proof that I also have lived upon the planet of Virgo?

Lumen. I do not know. If you had abnormal sight, or instruments, or eyes sufficiently piercing, you could see this planet from your globe, examine its surface, and if, perchance, you had existed there when it parted with the luminous rays which have actually reached the Earth, you might perhaps find yourself again there. But your eyes are too feeble to make a like research. Besides, it does not follow that because you have been able to fly, that therefore you have lived in that world. There are a considerable number of worlds where flying is the normal condition, and where all the human race possess this faculty. In reality, there are but few planets where the living creatures crawl as upon the Earth.

Quærens. The conclusion resulting then from your experience is, that you have had a life anterior to that upon the Earth. Do you, then, believe in a plurality of existences for the soul?

Plurality of existences.

Lumen. You forget that you speak to a disembodied spirit. I ought to be well fitted to give such evidence, having before me both my earthly life and my anterior life upon the planet of Virgo. Besides, I can recall many other existences.

Quærens. Ah! that is precisely what I lack in order to possess a similar conviction. I can recall absolutely nothing that preceded my birth into this world.

Lumen. You are yet in the flesh; you must wait for freedom from earthly fetters before you can recall your spiritual life. The soul has only full remembrance, full possession of itself in its normal, its celestial life; that is to say, between its incarnations. It then sees not only its life on the Earth, but all its anterior lives.

The soul's memory.

How could a soul, enveloped in the gross materialities of the flesh, and fixed there for a transitory work, recall its spiritual life? Would not such a remembrance even prove hurtful? What trammels would not be put upon the soul's liberty of action, could it see its life from the beginning to the end?

Where would be the merit of striving if one's destiny could be foreseen?

Souls incarnated upon the Earth have not yet attained to a sufficiently elevated state of advancement, for the memory of their anterior life to be of use to them.

Man is oblivious of anterior impressions, as in the butterfly.

The permanence of the anterior impressions of the soul is not manifested in this world of passage. The caterpillar does not remember its rudimentary existence in the egg. The sleeping chrysalis cannot recall the days it spent in work when it crawled upon the herbage. The butterfly, which flits from flower to flower, has not any memory of the time when its cocoon dreamed, as it hung suspended from its web; nor of the twilight, when its larvæ trailed from plant to plant; nor of the night, when it was buried like a nut in its shell. This does not alter the fact that the egg, the caterpillar, the chrysalis, and the butterfly, are one and the same being.

In certain cases, even of terrestrial life, you have remarkable examples of forgetfulness, such as that of somnambulism, either natural or artificial, and also in certain psychical conditions of which modern science makes a study. Hence it is not surprising that during one existence we should not remember our anterior ones. Uranic life and planetary life represent two states, free and distinct the one from the other.

Quærens. Still, master, if we had already lived a life before this one, something of it would remain with us, otherwise these anterior existences might as well never have been.

Lumen. Do you, then, call it nothing to be born on the Earth with innate tendencies? Such a thing as intellectual heredity does not exist. Take two children of the same parentage, receiving identically the same education, surrounded by the same care, and having in every respect similar environments. Now examine each of them. Are they equal? Not in any way; equality of souls does not exist. The one is born with pacific instincts and great intelligence. He will be good, learned, wise, illustrious perchance, amid the thinkers of his age. The other one brings with him a domineering, envious perhaps, or even a brutal instinct. His career defines and accentuates itself as each year passes, and will lead him eventually to high rank in military life, and will give him the honour

Heredity.

Dissimilarities.

(little to be coveted, though still admired upon the Earth) which is attached to the title of an official assassin.

Whether feebly or strongly pronounced, this dissimilarity of character, which depends neither upon family, nor upon race, nor upon education, nor upon material conditions, is manifest in every man. Reflect upon this at your leisure; you will arrive at the conviction that it is absolutely inexplicable, and can only be accounted for by belief in an anterior life of the soul.

Creation of the soul.

QUÆRENS. Have not most philosophers and theologians taught that the soul and the body are created at one and the same time?

LUMEN. And which, pray, is the precise moment of its creation? Is it at the moment of birth? Legislation, enlightened by anatomical physiology, knows that a child lives before being delivered from its uterine prison, therefore the destruction of an embryo of eight months is regarded as murder. At what period do you then suppose, that the soul appears in the fluid brain of the fœtus or of the embryo?

QUÆRENS. It was thought in olden times that the real spiritual quickening of the human being took place during the sixth week of gestation, but the modern belief is that it occurs at the moment of conception.

LUMEN. Oh, bitter mockery! In accordance with this view you would have the eternal designs of the Creator dependent in their execution upon capricious desires, upon the intermittent flames of two amorous hearts! You would dare to admit that our immortal being is created by the physical contact of two human beings! You would be disposed to believe that the Divine Head which governs the worlds, is influenced by intrigue, by passion, even by crime! You would think that the number of souls depends upon the number of flowers impregnated by the touch of the sweet pollen dust borne to them on golden wings?

Is not such a doctrine, such a supposition, an outrage upon the Divine dignity and the spiritual grandeur of the soul itself? And would it not, besides, be the complete materialisation of our intellectual faculties?

QUÆRENS. And yet——

LUMEN. Yes; that seems so to you, because upon your planet no soul can incarnate itself otherwise than in a human embryo. It is a *law* of life on the Earth. But you must look through the veil. The soul is not an effect. The body serves it only as its garment.

Quærens. I admit that it would indeed be singular that an event of such dire importance as the *creation* of an immortal soul should spring from a carnal cause, should be the result of casual unions, more or less legitimate. Also, I agree with you that organic causes do not explain the different degrees of capacity with which mankind is born into this world.

But I ask, of what use would be these various existences if, on beginning a new life, we retain no remembrance of those that precede it? Also, if it is really desirable to have in prospect a journey without end through endless worlds, and an eternal transmigration? For at last there must be an end to it all, and, after many æons of voyages, we must some day finish our existence and seek repose. Would it not be as well to do so after one existence only?

The unknown.

Lumen. O men! You do not comprehend either time or space. Do you not know that outside the movement of the stars time no longer exists, and that eternity is no longer measured? Do you not know that in the infinite extent of the sidereal universe space is but a vain word, no longer measurable? You ignore all; principles, causes, all escape you: atoms upon a movable atom, you have not any exact appreciation of the universe; and yet, despite ignorance so dense, and comprehension so obscure, you would attempt to judge all, to envelop all, to seize all! But it would be easier to put the ocean into a nutshell than it would be to make you, with your terrestrial brain, understand the law of destiny.

Can you not, then, by making a legitimate use of the faculty of induction which has been given you, gather the direct consequences resulting from observation supported by reason? Observation, sustained by proof, shows conclusively that all are not equal on coming into this world; that the past is not unlike the future; and that the eternity which is before us is equally behind us; that nothing is created in nature, and that nothing is annihilated; that nature includes all things existing, and that God, spirit, law, number, are no more outside nature than matter, weight, motion; that moral truth, justice, wisdom, virtue, exist in the progress of the world as surely as its physical reality; that justice decrees equity in the distribution of its des-

Nothing created, nothing annihilated

tinies; that our destinies are not accomplished upon this earthly planet; that the empyrean heaven does not exist, and that the Earth is a star in the sky; that other inhabited planets soar with ours in the vast expanse; opening out to the wings of the soul an inexhaustible field of vision, and that the infinite in the universe corresponds, in the material creation, with the eternity of our intelligence in the spiritual creation.

Are not certainties such as these, followed by the inductions with which they inspire us, sufficient to liberate your mind from ancient prejudices, and to open out, to an enlightened judgment, a panorama worthy of the vague yet profound desires of our souls? I could illustrate this general sketch by examples and details which would surprise you still more Let it suffice for me to add that there are in nature other forces than those you know, which, both in essence and in mode of action, differ from electricity, attraction, light, &c. Now, among these natural and unknown forces there is one in particular, the study of which will ultimately lead to singular discoveries in elucidating the problems of the soul and of life. This is the psychic force. This invisible fluidic force establishes a mysterious bond, un-

Unknown forces in nature.

known to themselves, between living beings, and already in many cases you have been able to recognise its existence. Take the case of two beings *in love* (as the saying is). It seems impossible for them to live apart. Should circumstances lead to their being separated, our two lovers become absent-minded, and their souls as it were leave their bodies, and span any distance which prevents them re-uniting with one another. The thoughts of the one are shared by the other, and they live together despite their separation.

Affinities

Should any misfortune touch one, the other becomes immediately conscious of it; and such separations have been known to end in death. How many facts have been stated by trustworthy witnesses of the sudden apparition of a person to an intimate friend, of a wife to a husband, of a mother to a son, and *vice versâ*, just at the moment of death, even though many leagues might separate them! The most captious critic cannot in these days deny facts thus circumstantially proved. Twin children living ten leagues apart, and under very different conditions, are stricken at the same time with the same malady, or if one is excessively fatigued, the other feels the same without apparently any assignable cause. And so on. These facts prove that ties of sympathy exist between souls and even between bodies, and give room for the repeated reflection, that we are far from knowing all the forces operating in nature.

If I communicate these views to you, my friend, it is chiefly to show that you can not only have a foretaste of truth before death, but also that earthly existence is not so entirely deprived of light, as to prevent one's reason recognising the chief characteristics of the moral world. Besides, all these truths will be emphasised by my further narration, when you learn that it is not only the previous existence before my last one that I have seen again, thanks to the slowness of light, but also my ante-penultimate planetary life, inclusive of more than ten existences preceding that one in which we came to know each other upon this Earth.

II

Plurality of lives.

QUÆRENS. Reflection and study had already inclined me, Lumen, to believe in the plurality of the existences of the soul. Yet this doctrine lacks proofs, logical, moral, and even physical, as numerous and as weighty as are those in favour of the plurality of the inhabited worlds.

I own that until now I had grave doubts on the subject. Modern optics and marvellous calculations, which enable us to touch, as it were, the other worlds, show us their years, their seasons, their days, and make us acquainted with the varieties of nature living on their surface. All these elements have enabled contemporaneous astronomy to establish the fact of human existence in the other worlds on a strong and imperishable foundation. But I repeat that it is not so with palingenesis, though I am strongly inclined towards the doctrine of the transmigration of souls in the actual heaven, since this is the only way by which we can gain an idea of eternal life. My desires, however, need to be sustained by the help of a light, and inspired by a confidence I do not yet possess.

Lumen. It is precisely this light which we have under consideration, and will be brought out by this interview.

I have, I own, an advantage over you, since I speak *de visu*, and that I strictly limit myself to interpret with exactitude the events with which my spiritual life is actually woven. But since you can see the possibility and probability of the scientific explanation of my statement, you cannot fail as you listen to increase your light and augment your knowledge.

Quærens. It is for this cause chiefly that I am always eager to hear you.

Lumen. Light, you understand, is the means of giving to the disincarnated soul *a direct vision* of its planetary existences.

After having reviewed my earthly existence, I saw once more my life previous to my last one, upon one of the planets of Gamma in Virgo, light bringing to me the former only after 72 years, and the latter after 172 years. I see myself at present from Capella as I was upon the earth 72 years ago, and as I was upon Virgo 172 years ago. Thus two existences, both *past and successive,* are here shown me as *present and simultaneous,* by virtue of the laws of light which transmit them to me.

Constellations.

Nearly five hundred years ago, I lived upon a world whose astronomical position as seen from the earth is precisely that of the left breast of Andromeda. Assuredly the inhabitants of that world do not suspect that the denizens of a little planet in space have joined the stars by fictitious lines, tracing figures of men, women, animals, and divers objects, incorporating all the stars in figures more or less original, in order to give them a name. It would greatly astonish some of these planetary people if they were told, that upon the Earth certain stars

Andromeda.

bear the names of Heart-of-the-Scorpion (what a heart!), Head-of-the-Dog, Tail-of-the-Great-Bear, Eye-of-the-Bull, Neck-of-the-Dragon, Brow-of-Capricorn. You are, of course, aware that neither the constellations drawn upon the celestial globe, nor the position of the stars upon that globe, are either real or absolute, but are only the result of the position of the Earth in space, and thus are simply a question of *perspective.* Go to the top of a mountain and fix upon a map the respective positions of all the summits surrounding you in that circular panorama, its hills, its valleys, its villages, its lakes; a map so constructed could only serve for the place from whence it was drawn. Now transport yourself ten miles farther; the same summits are visible, but their respective positions in regard to each other are different, resulting from the change in perspective. The panorama of the Alps and of the Oberland, as seen from Lucerne, and Pilatus does not in the least resemble that seen from the Fulkhorn, or from the Schynige Platte above Interlaken. Yet these are the same summits and the same lakes. It is exactly so with the stars. The same aspect is seen both from the star Delta in Andromeda and from the Earth; but there is not a constellation that can be recognised, because all the

Effects of perspective.

celestial perspectives have changed; stars of the first magnitude have become of the second and of the third; whilst others, of lesser magnitudes, seen nearer, shine with increased brilliancy; and, above all, the respective situation of the stars as regards one another has completely changed in consequence of the different position of that star and of the Earth.

Quærens. Therefore the appearance of the constellation which one has so long believed to be ineffaceably traced upon the vaulted sky is only due to perspective. In changing our position we change our perspective, and our sky is no longer the same. But, then, ought we not to have a change of celestial perspective every six months, since during this interval the Earth has greatly altered its position, having removed to a distance of seventy-four millions of leagues from the place it formerly occupied?

Lumen. This objection proves that you have perfectly comprehended the principle of the deformation of the constellations as one moves in any direction in space.

It would be, as you suppose, if the Earth's orbit were of a dimension sufficiently vast for the two opposite points of this orbit to change the view of this celestial scenery.

Quærens. Seventy-four millions of leagues—

Lumen. Are as nothing in the order of celestial distances, and can no more affect the perspectives of the stars, than taking a step in the cupola of the Pantheon would change the apparent position of the buildings in Paris to the eye of the observer.

The charts of the Middle Ages.

Quærens. Certain charts of the Middle Ages represent the Zodiac as an arch in the heavens, and place some of the constellations, such as Andromeda, the Lyre, Cassiopea, and the Eagle, in the same region as the Seraphim, the Cherubim, and the Thrones. That, therefore, was simply fancy, since constellations have no real existence, but are simply appearances due to perspective.

Lumen. Certainly the old heaven of theology has no legitimate place to-day, and simple common sense shows that it does not exist. Two truths cannot oppose one another; it is a necessity that the spiritual heaven should accord with the physical heaven, and the object of my various conversations is the demonstration of this truth. Upon the world of Andromeda of which I speak, there is nothing resembling the constellation of Andromeda. Seen from the Earth, those stars which appear joined and have served on the celestial landscape to distinguish the daughter of Cepheus and Cassiopea, are in reality spread out in space at all sorts of distances, and in every direction. One cannot find either there or elsewhere the least vestige of the tracings of terrestrial mythology.

The poetry of the heavens lost.

Quærens. All its poetry is lost. . . . I shall feel, however, a certain satisfaction in believing that for a part of my life I have rested on the bosom of Andromeda. It is a pleasant fancy. There is in it a mythological perfume and a comforting sensation. I should like to be transported there without fear of the monster, and without solicitude for the young Perseus bearing the head of the Medusa, and mounted on his famous Pegasus. But now, thanks to the scalpel of science, there is no longer an unveiled princess bound to a rock on the sea-shore, nor a virgin holding an ear of golden corn, nor Orion pursuing the Pleiades; Venus has vanished from our evening sky, and old Saturn has let fall his scythe in the night. Science has caused these ancient myths to disappear! I regret its progress.

Lumen. Do you, then, prefer illusion to reality? Do you not know that truth is immeasurably more beautiful, grander, and infinitely more marvellous than error, however that may be embellished? What can be comparable in all the mythologies past and present, to the rapt scientific contemplation of celestial grandeurs and the sublime movements of nature? What impression can strike the soul more profoundly than *the fact* of the expanse crowded with worlds, and the immensity of the sidereal systems? What voice is more eloquent than the silence of a star-lit night? What wild flight of imagination could conceive an image surpassing that, of the interstellar voyage of light, stamping with the seal of eternity the transitory events of the life of each world?

The facts of astronomy grander than its fancies.

Throw off, then, my friend, your old errors and become worthy of the majesty of science. Listen to what follows:—

By reason of the time light employs in coming from the system δ of Andromeda to Capella, I have seen again, in this year of 1869, my ante-penultimate existence, already ended five hundred years ago. That world is very singular according to our ideas. It has only one kingdom on its surface, and that the animal kingdom. The vegetable kingdom does not exist there. But that animal kingdom is very different from ours, and of a superior kind,

Description of the world of Andromeda.

The elements.

although it is endowed with five senses similar to those on the Earth. It is a world without sleep and without fixity. It is entirely enveloped in a rose-coloured ocean, less dense than terrestrial water, and more dense than our atmosphere. It is a substance holding a middle place as a fluid, between air and water. Terrestrial chemistry does not produce any similar substance, therefore it would be in vain to try and represent it to you. Carbolic acid gas that can be held invisible at the bottom of a glass, and can be poured out like water, will give you the nearest idea of it. This is due to a fixed quantity of heat and electricity held in permanence upon that globe. You are aware that the composition of all things upon the Earth, whether mineral, vegetable, or animal, is in three states, solid, liquid, and gaseous, and that the sole cause of these different conditions is the heat radiated from the Sun upon the surface of the Earth. The interior heat of the globe has now hardly any appreciable effect upon its surface.

Degree of heat fixes the condition of matter.

Less solar heat would liquefy gases and solidify liquids. Greater heat would dissolve solids and evaporate liquids. A more or less quantity of heat would produce liquid air (yes, liquid air), and marble would be turned into

Effect of the Earth flying off at a tangent.

gas. If by any cause whatever the earthly planet were one day to fly off from its orbit at a tangent, and rush away into the glacial obscurity of space, you would see all the water on the Earth become solid, and gases in their turn become liquids; then as to solids themselves . . . you would see! No, you could not see this by remaining upon the Earth, but you could from the depths of space witness this curious spectacle, should your globe ever indulge in the freak of escaping from its orbit at a tangent. And note further, that should this colossal cold ever take place suddenly, all creatures would find themselves immediately frozen on the spot, and the globe would carry into space the singular panorama of the whole human race, and every animal immovably congealed for all eternity, in the various attitudes assumed by each individual and each creature, at the moment of the catastrophe.

Worlds in a glacial state. Life arrested.

There are worlds now in this state. They are eccentric worlds, the life of whose inhabitants has been insensibly arrested by the rapid flight of their planet away from the Sun, and they have been transformed into millions of statues. Most of them are lying down asleep, seeing that this profound change of temperature takes many days in its accomplishment. There

The awakening out of glacial repose.

they are by millions, pell-mell, dead, or, to be more accurate, sunk in a complete lethargy. The cold preserves them. Three or four thousand years later, when the planet returns from its dark and frozen aphelion to its brilliant perihelion, towards the sun—whose fertilising heat caressing its surface with welcoming rays will rapidly increase—and when it has reached the degree which betokens the normal temperature of these beings, they will be resuscitated at the age at which they were when overtaken by sleep; they will take up their affairs from the moment of their interruption (long interruption indeed!) without any consciousness that they had slept a dreamless sleep for so many ages. One may see some continuing a game, or finishing a phrase whose first words have been uttered four thousand years ago. All this is perfectly simple, for we have seen that time does not in reality exist. This, on a large scale, is exactly what passes on a small one on the Earth when you revive infusoria, which take a fresh lease of life under the rain, after several years of apparent death.

World of Andromeda.

But to return to our world of Andromeda; the rose-coloured and quasi-liquid atmosphere, surrounding it entirely as an ocean without islands, is the abode of living beings, who are perpetually floating in the depths of that ocean which none have ever sounded: from their birth to their death they have not one moment's repose. Incessant activity is the condition of their existence. Should they become stationary they would perish. In order to breathe, that is to say, to enable this fluid element to penetrate to their bosom, they are constrained to keep their tentacles in unceasing motion, and their lungs (I use this word the better to be understood) constantly open.

Process of nourishment.

The external form of this human race resembles that of the sirens of antiquity, but is less elegant, and their organism approaches that of the seal. Do you see the essential difference between their constitution and that of terrestrial man? It is that *on the Earth we breathe without being conscious of the act*, and obtain oxygen without exertion, not being compelled with difficulty to convert venous into arterial blood by the absorption of oxygen. Upon this other world, on the contrary, this nourishment *is only obtained with labour* and at the price of incessant effort.

Quærens. Then this world is inferior to ours in the scale of progress?

Lumen. Without any doubt, seeing that I

inhabited it before coming upon the Earth. But do not think that the Earth is much superior by reason of our being able to breathe whilst we are asleep. Doubtless, it is a great advantage to be furnished with a pneumatic mechanism, which opens involuntarily every time that our organism needs the least breath of air, and which acts automatically and unceasingly night and day. But man does not live on air alone; his earthly organism requires to be nourished with something more solid, and this solid something does not come to him involuntarily as does air.

Labour of life on the Earth.

What is the result? Look for a moment at the Earth. See what sorrow, what desolation! What a world of misery and brutality! Multitudes bowed down with bent backs to the soil, which they dig with toil and pain, that they may gain their daily bread! All these heads bent down to the grossness of matter, in place of being raised up to the contemplation of nature! All these efforts and these labours, bringing in their wake feebleness and disease! All this traffic to amass a little gold at the expense of others! Man taking advantage of his brother man! Castes, aristocracies, robbery and ruin, ambitions, thrones, wars! In a word, *personal interests,* always selfish, often sordid, and the reign of matter over mind. Such is the normal state of the Earth, a condition forced by the law which rules over your bodies, compelling you to kill in order to live, and to prefer the possession of material goods that cannot be carried beyond the grave, to the possession of intellectual gifts, which the soul can keep as a rich and inalienable possession.

Quærens. You speak, master, as if you thought it were possible to live without eating.

Lumen. Do you, then, believe that the beings of every world in space are subject to an operation so ridiculous as this? Happily, in many of the worlds, the spirit is not subjected to such ignominy.

Atmospheric nutrition.

It is not so difficult as you may suppose, on first thoughts, to believe in the possibility of atmospheric nutriment. The maintenance of life among man and the animals depends upon two causes, respiration and nutrition. The first is found naturally in the atmosphere; the second is derived from nourishment. Nutrition produces blood; from the blood come the tissues, the muscles, the bones, the cartilages, the flesh, the brain, the nerves, in a word, the organic constituents of the body. The oxygen we breathe can itself be considered as a nutritive substance, inasmuch as it combines with the principal aliments absorbed by the stomach, and completes the formation of the blood and the development of the tissues.

Now, to imagine nutrition passing entirely into the domain of the atmosphere, it is only necessary to observe that, as a whole, a complete aliment is made up of albumen, of sugar, of fat, and of salt, and to imagine also that an atmospheric fluid, in place of being composed of azote and of oxygen only, should be formed of these different substances in a gaseous state. These aliments are found in the solids that you absorb; digestion is the function which separates them, and which causes them to assimilate with the organs to which they belong. When, for example, you eat a morsel of bread, you introduce into your stomach a grain of starch, a substance insoluble in water, and which is not found in the blood. The saliva, and the pancreatic juice, transform the insoluble starch into soluble sugar. The bile, the pancreatic juice, and the intestinal secretions, change the sugar into fat. Both sugar and fat are present in the blood, and it is by the processes of alimentation

The process of alimentation.

that substances are separated and assimilated in your body.

It astonishes you, my friend, that after living five years—according to terrestrial reckoning—in the celestial world, I can remember all these material terms, and condescend to make use of them. But the memories that I have brought from the Earth are still vivid, and as we speak on this occasion on a question of organic physiology, I do not feel ashamed of calling things by their own names.

If, then, we suppose that in place of being combined or mixed in the constitution of bodies, solid or liquid, these aliments could be found in a gaseous state in the composition of the atmosphere, we should create by this means nutritive atmospheres, which would dispense with digestion and its attendant coarse and humiliating functions.

That which man is capable of imagining in the restricted sphere of his observation, Nature has put in practice in more than one spot of the universe.

Besides, I can assure you that when one has ceased to be accustomed to this material process of the introduction of nourishment into the digestive tube, one cannot avoid being impressed with its coarseness. This was the reflection I made a few days ago whilst observing one of the richest countries on your planet. I was struck by the suave and angelic beauty of a maiden, reclining in a gondola as it floated gently on the blue waters of the Bosphorus before Constantinople. Red velvet cushions, embroidered with brilliant silks, whose heavy tassels of gold touched the water, formed the divan of this young Circassian. Before her knelt a little black slave playing upon some stringed instrument. Her form was so juvenile and graceful, her bended arm so elegant, her eyes so pure and innocent, her pensive brow so calm under the light of heaven, that for an instant I was captivated by a kind of retrospective admiration for this masterpiece of living nature.

Well! while this pure vision of awakening youth, sweet as a flower opening its petals to the sun's rays, held me in a kind of passing enchantment, the bark reached the landing-stage, and the maiden, leaning on a slave, seated herself on a couch near a well-spread table, around which others had already gathered. She began to eat! Yes! for near an hour *she was eating!*

I could scarcely tolerate the earthly recollections recalled by this ridiculous spectacle.

To see a being like that partaking of food through the mouth, and making her charming body the receptacle for I do not know what substances! What vulgarity! Masticating morsels of some kind of animal which her pearly teeth did not disdain to chew, and again fragments of another animal which her virginal lips opened without hesitation to receive and swallow! What a diet: a medley of ingredients drawn from cattle, or from deer, which have lived in the mire and afterwards been slaughtered. Horror! I turned away with sadness from this strange contrast, and directed my gaze to the system of Saturn, where humanity need not stoop to such necessities.

The floating beings belonging to the world of Andromeda, where my antepenultimate existence was passed, are submitted to a still more degrading manner of sustaining life than are the inhabitants of the Earth. They have not the advantage of finding three parts of their nutriment supplied by the air, as is the case on your globe: they must work to obtain what may be called their oxgyen, and, without ceasing, they are condemned to use their lungs in order to prepare the nutritious air they need, without sleeping, and without ever feeling satisfied, because, despite their incessant toil they cannot absorb more than a small quantity at a time. Thus they pass their entire life, and finally die victims to the struggle for existence.

Victims to the struggle for existence.

QUÆRENS. Better far never to have been born! But does not the same reflection apply to the Earth?

What is the use of being born, to weary one's self with endless work and worry, to turn in the same daily treadmill for sixty or a hundred years; to sleep, to eat, to work, to speak, to run, to err, to agitate, to dream, *ad infinitum?* Of what use is all this? Would not one be just as advanced if one were extinguished the day after birth, or, better still, if one did not take the trouble to come into the world? Nature would not go on in any worse fashion, and even if it did, no one would be the wiser. And one might ask, of what use is Nature herself, and why does the universe exist at all?

Humanity in Andromeda.

LUMEN. That is the great mystery. Yet must all destinies be accomplished. The world of Andromeda is decidedly an inferior one. To give you an idea of the poor mental calibre of its inhabitants, I will cite two examples, selecting the subjects of religion and politics, as these are generally the best criterions of the value of a people. In religion, in place of seeking for God in nature, and of basing their judgment on science, instead of aspiring to the truth, and of using their eyes to see and their reason to comprehend—in a word, in place of establishing the foundations of their philosophy upon knowledge as exact as possible of the order which governs the world—they are divided into sects, who are voluntarily blind, and believe they render homage to their pretended God by ceasing to reason, and think they adore Him, in maintaining that their anthill is unique in space; by reciting phrases and in injuring other sects, and alas! by blessing swords, and burnings at the stake, and in authorising massacres and wars. Their doctrines contain assertions which seem expressly imagined to outrage common sense. These are precisely those which constitute the articles of their faith and belief!

Humanity.

They are stupid in politics. The most intelligent and pure-minded do not understand each other. Therefore the Republic seems to be a form of government which cannot be realised. Tracing the annals of their history as far back as possible, one sees a people, cowardly and indifferent, deliberately choosing, rather than govern themselves, to be led by an individual claiming to be their Basileus, their king. This chief deprives them of three-fourths of their resources, keeping for himself and his, the atmosphere containing the greatest amount of rose-essence—that is to say, that he keeps the best in the land for his own use; he numbers his subjects, and from time to time sends them to fight with neighbouring peoples, who, like themselves, are subject to a similar Basileus.

Marshalling them like shoals of herrings, he directs them on either side towards the field of battle, which they call the *field of honour,* they then destroy one another like furious fools, without knowing why, and without, for that matter, the power to comprehend, as they do not even speak the same language.

And do you imagine that those who, most favoured by chance, live to return, feel any hatred against their Basileus?

Nothing of the kind. The remnant of the army who live to see their homes again, think nothing more natural than to celebrate their thanksgivings in company with the dignitaries of their sects, supplicating their God to grant long life to, and to pour blessings upon, the worthy man whom they designate their father and king.

Organisation of the beings on Andromeda.

Quærens. I gather from this narration, that the inhabitants of Delta Andromeda are, both physically and intellectually, greatly our inferiors, for upon the Earth we do not regulate our affairs in this manner . . . In short, upon their globe there is only one living kingdom, and that a mobile one, without repose, without sleep, kept in perpetual agitation by reason of an inexorable fate. A world like this strikes me as being very fantastic.

Lumen. What, then, would you say of the one I inhabited fifteen centuries ago? A world also containing only one kingdom, and that not a movable one, but, on the contrary, as fixed as is your vegetable kingdom?

Quærens. How! Animals and men held down by roots?

III

Organisation of beings on Andromeda.

Lumen. My existence anterior to that upon the world of Andromeda was passed upon Venus, a planet near to the Earth, where I can remember myself as a woman. Not that I have directly seen myself there, for, according to the law of light, it would require the same length of time to travel from Venus to Capella as it would from the Earth to Capella, and I consequently see Venus only as it was seventy-two years ago, and not as it was nine hundred years ago, which was the epoch of my existence upon that planet.

My fourth life, previous to my terrestrial one, was passed upon an immense annular planet belonging to the constellation Cygnus, situated in the zone of the Milky Way. This singular world is inhabited solely by trees.

Quærens. That is to say, that so far only plants are there, and neither animals nor intelligent speaking beings?

Lumen. Not exactly. There are only plants there, it is true. But in this vast world of plants there are vegetable races more advanced than those existing upon the Earth. There plants live as we do—feel, think, reason, and speak.

Reasoning plants.

Quærens. But this is impossible! Pardon!—I would say improbable, incomprehensible, and entirely inconceivable.

Lumen. These intelligent vegetable races really exist—so much so, that I myself belonged to them. Fifteen centuries ago I was a tree possessed of reason.

Quærens. But tell me, how can a plant reason without a brain, and speak without a tongue?

Lumen. Tell me, I beg of you, by what process you yourself think, and by what transformation of motion your soul translates its mute conceptions into audible language?

Quærens. I am seeking, O Master, but I fail to find, the material explanation of this fact, however ordinary it may be.

Lumen. We have no right to declare an unknown fact impossible, when we are so ignorant ourselves of the laws regulating our own being. Because the brain is the physiological organ of intelligence placed at the service of man on the Earth, do you therefore believe that there are similar brains and spinal marrows upon all the worlds in space? This would be an error too childish. The law of progress governs the vital system of each world. This vital system differs according to the secret nature of the special forces peculiar to each. When a world has reached a sufficient degree of evolution to fit it for entering into the service of moral life, *mind*, more or less developed, appears on it.

Facts not impossible because unknown.

Do not imagine that the Eternal Father creates at once a human race on each globe. Not so. The first step in the ladder of the animal kingdom receives the human transfiguration by force of circumstance, and by

Gradation of the human race.

natural law, which ennobles it, as soon as progress has brought it to a state of relative superiority.

The development of life.

Do you know why you have a chest, a stomach, two legs, two arms, and a head furnished with visual, auditory, and olfactory senses? It is because the quadrupeds, the mammalia, which preceded the appearance of man on the Earth, had them already. Monkeys, dogs, lions, bears, horses, oxen, tigers, cats, &c., and before them the horned rhinoceros, the cave-hyena, the elk, the mastodon, the oppossum, &c., and prior to these the pleiosaurus, the ichthyosaurus, the iguanodon, the pterodactyl, &c., and again before these the fishes, the crustacea, the mollusca, &c., have been the result of the vital forces in action upon the Earth, dependent upon the state of the soil, of the atmosphere, of inorganic chemistry, of the quantity of heat, and of terrestrial gravity. The earthly animal kingdom has followed, from its origin, this continuous and progressive march towards the perfection of its typical forms of mammalia, freeing itself more and more, from the grossness of its material.

Man is more beautiful than the horse, the horse than the bear, the bear than the tortoise. A similar law governs the vegetable kingdom.

Heavy, coarse vegetables without leaves and without flowers began the series. Then, as the ages advanced, their forms became more pure, and graceful leaves appeared filling the woods with silent shadows.

Flowers in their turn began to beautify the gardens of the Earth, and spread sweet perfumes in an atmosphere until then insipid.

The genealogical tree of life.

To the scrutinising eye of the geologist who visits these tertiary, secondary, and primordial districts, this double progressive series of two kingdoms is to be seen to this day. There was a period upon the Earth when a few islands had but just emerged from the bosom of the warm waters, into an atmosphere surcharged with vapour, when the only living things distinguishing this inorganic kingdom were long floating filaments held in suspension in the waves. Seaweed and sea-wrack were the first forms of vegetation. On the rocks, live creatures for which one has no name. There, sponges swell out. Here, a tree of coral lifts up itself. Further on, the Medusæ detach themselves and float like balls of jelly. Are these animals? Are these plants? Science does not answer.

They are animal-plants, zoophites. But life is not limited to these forms. There are creatures not less primitive, and as simple, which typify a special species. These are the annelides, worms, fish in the form of a simple tube, creatures without eyes, ears, blood, nerves, will, a vegetative species, yet endowed with the power of *motion*. Later on rudimentary organs of sight and of locomotion appeared, and life became less elemental. Then fishes and amphibious creatures came into existence. The animal kingdom began to form itself.

Formation of the animal kingdom.

What would have been the result if the first creature had never quitted its rock? If these primitive elements of terrestrial life had remained stationary at the point of their formation, and if, for any cause whatever, the faculty of locomotion had never had a beginning? The consequence would have been, that in place of the system of terrestrial vitality being manifested in two different directions, viz., in the world of plants and the world of animals, it would have continued manifesting itself solely in the first direction, with the result that there would have been but one kingdom instead of two, and the creative progress would have operated in that kingdom as it operated in the animal kingdom. It would not have been arrested at the formation of sensitives, superior plants which are already gifted with a veritable nervous system; nor would it have stopped at the formation of flowers, which are already bordering on ours in their organic functions; but, continuing its ascension, would have produced, in the vegetable kingdom, that which has already been produced in the animal kingdom. As it is, many vegetables feel and act; here would have been vegetables feeling and making themselves understood. The Earth would not have been on that account deprived of the human species. Only mankind, instead of being gifted with locomotion as it is, would have been fixed by the feet. Such is the state of the annular world in which I lived fifteen centuries ago in the heart of the Milky Way.

Men-plants.

QUÆRENS. Of a truth, this world of men-plants astonishes me more than the previous one, and I find it difficult to picture to myself the life and manners of these singular beings.

LUMEN. Their kind of life is indeed very different from yours. They neither build cities nor make voyages; they have no need of any form of government; they are ignorant of war, that scourge of terrestrial humanity, and they have nothing of that national self-love called patriotism which is one of your characteristics.

Prudent, patient, and gifted with constancy, they have neither the mobility nor the fragility of the denizens of the Earth. Life there reaches an average of five or six centuries, and is calm, sweet, uniform, and without revolutions. But do not think that these men-plants live only a vegetable life. On the contrary, they have an existence both personal and positive. They are divided, not by caste, regulated by birth and fortune, according to that absurd custom on the earth, but by families, whose native value differs precisely according to its kind. They have an unwritten social history, but nothing which happens amongst them can be lost, inasmuch as they have neither emigrations nor conquests, but their records and traditions are handed down from one generation to another. Each one knows the history of his own race. They have also two sexes, as upon the Earth, and unions take place there in a similar manner, but are purer, more disinterested, and invariably affectionate. Nor are these unions always consanguineous; impregnation can even be effected at a distance.

Quærens. But, after all, how can they communicate their thoughts if it be true that they think? And besides, master, how was it possible for you to recognise yourself on this singular world?

Manner of life upon Cygnus.

Lumen. The same reply will satisfactorily answer your double question. I was looking at that ring in the constellation of Cygnus, being drawn there with persistence by some irresistible instinct. It surprised me to see only vegetable growths upon its surface, and I principally remarked their singular manner of grouping: here two and two, there three and three, farther off ten and ten, besides others in larger clusters. Some were seated, as it were, upon the brink of a fountain, others appeared to be reposing, with little shoots springing up round them. I sought to find there the kinds familiar to me on the Earth, such as pines, oaks, poplars, willows, but I could not find any of these botanical growths.

At last I fixed my eyes upon a plant in the shape of a fig-tree, without either leaves or fruit, but full of brilliant scarlet flowers, when suddenly I saw this enormous fig-tree stretch out a bough like a gigantic arm, raise the extremity of this arm to its head, and pluck one of the magnificent flowers ornamenting its crown, and then present the same, with an inclination of the head, to another fig-tree growing some little distance apart, of slender and graceful form, and bearing sweet blue flowers. This one appeared to receive the red flower with a certain pleasure, for it extended a branch, or one might say a cordial hand, to its neighbour, which was apparently held in a long clasp.

Under certain circumstances, as you know, a gesture is sufficient for making yourself known to another. Thus, then, the meaning of this tableau was borne in upon me. This gesture of the fig-tree in the Milky Way awoke within me a world of memories.

This Man-Plant *was myself* as I was fifteen centuries ago, and in the fig-trees with the violet flowers which were grouped around me I recognised my children; for I recollected that the tints of the flowers borne by the offspring, are the result of the admixture of the two colours distinguishing their parents.

Faculties of men-plants.

These Men-Plants see without eyes, hear without ears, and speak without larynx. Have you not flowers upon the Earth which can discriminate not only night from day, but also the different hours of the day, the height of the sun above the horizon, a clear sky from a cloudy one, and more, which perceive divers sounds with exquisite sensitiveness; and, in fine, not only hear each other perfectly, but also the butterfly messengers. These rudiments are developed to a veritable degree of civilisation upon the world of which I speak, and these beings are as complete in their kind as you on the Earth are in yours. Their intelligence, it is true, is less advanced than the average intellect of terrestrial humanity; but in their manners and mutual relations, they show in all ways a sweetness and refinement, which might often serve as a model to the dwellers upon the Earth.

Quærens. How is it possible, master, that they see without eyes, and hear without ears?

Light and sound are only modes of motion.

Lumen. You will cease to be astonished, my old friend, if you will but reflect that light and sound are nothing else than two *modes of motion.* In order to appreciate either one or the other of these two modes of motion, you must (and that is sufficient) be endowed with an apparatus in correspondence with them, which might be only a simple nerve. The eye and the ear are the apparatus for your terrestrial nature. In another natural organisation the optic nerve and the auditory nerve form quite different organs. Besides, light and sound are not the only two modes of motion in nature. I can even say that light and sound are the result of your manner of feeling, and not of anything real.

Nature possesses myriads of modes of motion.

There are in nature not one, but ten, twenty, a hundred, a thousand different modes of motion. Upon the Earth you are so formed as to be able to appreciate chiefly these two, which constitute almost the whole of your life in its external relations.

Upon other worlds there are other senses with which nature can be appreciated under its various aspects. Some of these senses take the place of your eyes and of your ears, and others are in touch with perceptions entirely foreign to those which are received by terrestrial organs.

Quærens. When you spoke to me just now of the men-plants in the world of Cygnus, the idea occurred to me to ask if earthly plants possess a soul?

Lumen. Most certainly. Terrestrial plants are gifted with a soul just as much as are animals and men. Without a potential soul no organisation could exist. The *form* of a plant is determined by its soul. An acorn and the kernel of a peach are planted side by side in the same soil, the same situation, under the same conditions; why should the first produce an oak and the second a peach tree? Because

Form determined by soul.

Souls of plants.

an organic force inherent in the oak will construct its special kind of vegetable, and another organic force, another soul inherent in the peach, will equally draw to itself other elements necessary for its special body, just as the human soul, in the construction of its body, uses the means put by nature at its disposal. Only the soul of the plant has not any self-consciousness.

Souls and atoms.

Personality of the soul.

The souls in vegetables, in animals, and in men, have already attained to that degree of personality and of authority, which enables them to bend at will, and to command and govern at pleasure, all those non-personal forces which exist in the bosom of immeasurable nature. The human monad, for example, being superior to the monad of salt, or of carbon, or of oxygen, absorbs and incorporates them in its structure. Our human soul in our terrestrial body upon the Earth governs, without being conscious of it, all the elementary souls forming the constituent parts of its body. Matter is not a solid and compassable substance. It is an assemblage of centres of forces. Substance has not any importance. From one atom to another there is a great distance in proportion to the dimensions of atoms. At the head of the divers centres of forces which constitute and form the human body is the human soul, governing all the ganglionic souls, which are subordinated to it.

Quærens. I must frankly own, most wise instructor, that I fail to clearly grasp this theory.

Lumen. Then I will illustrate it for you by an example which will demonstrate the truth of all I have said, and convince you that it is a fact.

Quærens. A fact? Are you, then, a reincarnation of the Princess Scheherazade, and have you been fascinating me with a new tale from the "Arabian Nights"?

FIFTH CONVERSATION

INGENIUM AUDAX: NATURA AUDACIOR

LUMEN. You know the splendid constellation of Orion which reigns like a sovereign over your winter nights, and the curious multiple star θ (theta) which is to be found below the sword suspended from the Belt, and shines in the midst of the famous nebula. This system θ of Orion is one of the most singular which is to be found in the vast treasure-house which contains such a variety of celestial jewels. It is composed of four principal Suns disposed in a quadrilateral form. Two of these Suns, forming what I may call the base of the quadrilateral, are accompanied, the one by a single Sun, the other by two Suns. Thus it is a system of seven Suns around each of which circulate inhabited planets.

Theta (θ) in Orion.

I was on a planet turning round one of the secondary Suns. This revolved round another of the four principal Suns. That in its turn

A world in Orion.

circulated, in concert with the others and at the same time, around an invisible centre of gravity in the interior of the quadrilateral. I do not insist on these movements, but the celestial mechanism explains them.

Day Suns and night Suns.

I was therefore lighted and warmed on my planet by seven Suns at the same time ; by one larger and more brilliant in appearance than the other six, because it was nearer to me ; by a second very large and equally bright ; by a third of moderate size, and by two who were like twins. These different Suns are never all together above the horizon. There are day Suns and night Suns; that is to say, they have there no night properly so called.

QUÆRENS. Really ? Are there in the heavens double and multiple Suns ?

Inhabitants of Theta Orionis.

LUMEN. Yes, a very great number. The system of which I am speaking to you, amongst others, is known to the astronomers of the Earth, who count by thousands in their catalogues, systems of double stars, of multiple stars, and of coloured stars. You can study them yourself with your telescope. Now, on the planet of Orion, which I have just mentioned to you, the inhabitants are neither vegetables nor animals. They could not be placed in any classification of terrestrial life, nor in either of the two great divisions of the vegetable and animal kingdoms. In truth I do not know with what to compare them in order to give you an idea of their form.

Have you ever seen, in botanic gardens, the gigantic tapering plant the *Cereus giganteus?*

QUÆRENS. I know this plant very well. Its name comes from its resemblance to the wax tapers, placed in three or more branched stands, with which churches are lighted.

Analysis of the nervous system.

LUMEN. Well, the men of θ Orionis bear some likeness to this form. Only they move slowly, and maintain an upright position by means of a process of suction analogous to that of the ampullæ of certain plants. The lower part of the vertical stem, where it rests on the ground, is slightly elongated, like a starfish, with little appendages which fix themselves to the soil by means of suction. These beings often go in troops, and change their latitude according to the seasons. But the most singular peculiarity of their organisation is that which illustrates the principle of which I have spoken to you, of the union of elementary souls in the human body. One day I visited this world, and found myself in the midst of an Orionic landscape. I beheld a being standing there like a plant ten metres high, without

Plant-beings.

leaves or flowers. He consisted in fact of a cylindrical stalk, the uppermost part of which separated into many branches like those of a chandelier. The central stem, as well as those of the branches, measured about a third of a metre in diameter. The tops of the stalk and of the branches were crowned with a diadem of silver fringe. Suddenly I saw this being agitate his branches and then vanish. The fact is that in this world individuals, although quite well, fall to pieces literally in an instant.

Death by disintegration.

The molecules of which they are constituted fall altogether to the ground. The personal existence of the individual comes to an end. His molecules separate and are dispersed.

Quærens. They disintegrate, and the atoms fly apart, like truants from school.

Lumen. Just so. I can recollect this disintegration of the body often took place in their lives. Sometimes it was the result of contrariety, sometimes of fatigue, and in other cases of a want of organic accord between the different parts. They exist in their entirety actual and complete, then suddenly they are reduced into the most simple elementary form. The cerebral molecule, which constitutes each one in reality, feels itself descending in consequence of the fall of its sister molecules of the long branches, and it arrives at the surface of the ground solitary and independent.

Quærens. This mode of dissolution would sometimes be a very convenient proceeding here below. To get out of an embarrassing situation, for example a conjugal scene *à la* Molière, or a bad quarter of an hour such as Rabelais describes, or a mournful situation such as the scaffold for an execution, one would only have to let loose one's constituent atoms, and — bid good-bye to the company. . . .

Animated molecules.

Lumen. You seem to regard the matter as a joke, but I assure you it is an undoubted reality. It would exist on the Earth as well as on the planet of Orion, if the principle of authority were not so firmly fixed with you. There it is only in an elementary form. Your body is formed of animated molecules.

According to one of your most eminent physiologists, your spinal marrow is a series of centres, linked together independently, and yet under control. The essential constituents of your blood, of your flesh, and of your bones, are in a like case. They are provinces self-governed, but subject to a superior authority. The working of this superior authority is a condition of human life — a condition which is less exclusive amongst the inferior animals. Each ring of the worm called lombric is a complete worm, so that a lombric represents a series of similar beings constituting a veritable living co-operative society. Cut into rings, the worm would be so many independent individuals.

In the tape-worm, a solitary worm, the head is of more importance than the rest of the body, and possesses the faculty of reproducing the rest of the body after it has been cut off. The leech is another example of united individuals. Cut it into five or six rings, and the operation gives you as many leeches. Thus also, a cutting of a branch of a tree will grow. In like manner a crab's claw or a lizard's tail will be reproduced. In reality the vertebrate animals, such as man, are essentially composite in structure. The spinal marrow, and its highest expansion in the brain, consist of segments placed in juxtaposition, with nervous centres, each of which possesses an elementary soul.

Power of the personal soul.

The law of authority in action on the Earth, has determined in the animal series a preponderating direction. You are composed of a multitude of beings grouped together, and dominated by the plastic attraction of your personal soul, which from the centre of your being has formed your body from the embryo, and has united round itself, in a microcosm, a whole world of beings, who have not any consciousness of their individuality.

QUÆRENS. On the planet of Orion nature itself is then in a state of absolute Republicanism.

LUMEN. Republicanism governed by *law*.

QUÆRENS. But when a being finds itself thus disintegrated, how can he afterwards reconstitute himself as a whole?

LUMEN. By an act of the will, and often without the least effort, and even by a casual desire. Although separated from the cerebral molecule, the corporeal molecules are still intimately connected with one another. At a given moment they combine, and each takes its place. The directing molecule draws the other from a distance, as the loadstone attracts iron filings.

QUÆRENS. I can easily picture to myself the spectacle of this Lilliputian army, when summoned by a whistle, drawing to its centre to organise a reunion; all the little soldiers climbing one over the other, and in a moment taking their places to reconstruct the man-taper that you have described to me. One really ought to leave the Earth to behold such rare wonders!

LUMEN. You still judge of universal nature by the atom that you have before your eyes, and you are only qualified to comprehend the facts which are within the sphere of your observations. But I assure you the Earth is not the type of the universe.

Various forms of life.

This world of θ Orionis, with its seven revolving Suns, is peopled by an organic system analogous to that which I have just described to you.

I lived there 2400 years ago, and I can see myself there again in accordance with the time that light occupied in coming from that point in space to Capella. When there, I was acquainted with the spirit who in this century was incarnated on the Earth and published his studies under the name of Allan Kardec.

We did not recollect that we had known one another before, during our terrestrial life, but we often felt attracted to one another by peculiar intellectual sympathies. Now that he has returned, like myself, into the world of spirits, he also remembers the singular republic of Orion and can see it. Yes, this is very curious, but it is quite true. You have no idea, on your poor planet, of the unimaginable diversity which separates the worlds in their geological, as much as in their physiological organisations.

These conversations may serve to throw light on your knowledge of this general truth, so important in the conception of the universe. But the scientific service that these conversations can specially render you is in making you understand that light is the mode of transmission of universal history. With the powerful visual faculty which we enjoy here, we can distinguish the surface of distant worlds. The eye of our "perisprit" is not identical with the bodily eye. In the terrestrial sight the rays diverge, so that a very small object, placed quite near the eye fills the interval of the two rays, whilst at a greater distance, a larger object is necessary to fill the space, proportionately increased, which separates the same rays. In our eye, on the contrary, the visual rays enter in parallel lines, so that we see each object in its real proportions, and in its normal size, its apparent size being quite unaffected by distance. We do not see the whole of large objects, but only sections of them proportioned to the openings of our special retina, but these parts are seen by us with equal clearness at any distance (when there is no atmosphere to veil this distance).

Sense of sight in spirits.

A tree in a prairie on a celestial body, as far as Theta of Orion is from Capella, is perfectly visible to us. On the other hand, in accordance with the law of the successive transmission of the rays of light, all the events in nature, and the history of all the worlds, are depicted in space as a universal tableau, the most true and the most magnificent in all nature.

Infinite diversity in Sirius.

As these conversations will have shown you, I have traversed a great many different celestial countries, and have actually studied creation without fixing myself in any place. I hope in the course of the next century to be reincarnated on a world dependent on the train of Sirius. The humanity there is more beautiful than that of the Earth. Birth is effected by means of an organic system less ridiculous and less brutal than that of the Earth.

But the most remarkable characteristic of the life on this world is, that there men perceive the physico-chemical operations which take place for the maintenance of the body. From each molecule of the body, so to speak, proceeds a nerve which transmits to the brain the various impressions that it receives, so that the soul absolutely knows its body, and rules over it as a sovereign.

There is an immense variety amongst the worlds. On one of the planets of the system of Aldebaran, very curious from this point of view, the vegetables are all composed of a substance analogous to *the loadstone*, because silica and magnesia predominate in its constitution. The animals feed on this substance only. Most of the beings inhabiting this world are *incombustible.*

Vegetable life in Aldebaran.

Upon the world of which I speak night is illumined by phosphorescent lights. I have visited other worlds where night does not exist at all, where day and night do not succeed each other as upon the Earth, because every portion of their spheres is continuously supplied with light by several suns, which never leave them in darkness for an instant. There sleep is unnecessary, either for man, for animals, or for plants.

Upon your planet sleep consumes a third portion of your life, its primary cause being the rotation of the earth on its axis, which produces day and night in succession, on the various parts of the globe.

Upon these worlds where it is always day, the inhabitants never sleep, and it would greatly surprise them to learn, that there exists a humanity where a third of life is passed in a lethargy resembling death.

Not far from this, a world revolves where night is almost unknown, although it does not possess a nocturnal sun, as in the quadrilateral of Orion, and it has no satellites. The rocks of its mountains, being of a chemical composition that reminds one of the phosphates and the sulphates of barytes, store up the solar light received during the day; and during the night they radiate a sweet, calm, translucent light, which illumines the scenery with a tranquil nocturnal clearness. There, also, one sees curious trees, bearing flowers which shine in the evening like fire-flies. These resemble horse-chestnuts, but the snowy flowers are luminous.

Phosphoric light

Phosphorus enters largely into the composition of this curious and singular world. Its atmosphere is constantly electrical; its animals are luminous, as well as its plants, and its humanity partakes of the same nature.

The passions phosphorescent.

The temperature is very high, and the inhabitants have not much need to invent clothes. Now, it happens that certain passions are manifested by the illumination of part of the body. This is, on a large scale, what takes place on a small scale in your terrestrial meadows, where one sees in the sweet summer evenings the glow-worms silently consumed in an amorous flame. In the fire-flies of the north, that you see in France, the male is winged and is not luminous ; the female, on the contrary, is luminous, but does not possess the aerial faculty. In Italy the two sexes are winged, and both can become luminous. The humanity which I am describing to you has all the advantages of this latter type.

Certain forms of terrestrial life are to be met with among the sidereal humanities. Thus we find in some of them, the same thing that takes place on the Earth in the ant world, where, on the day of their aerial unions, all the males die of exhaustion ; and again in the world of bees, where the procreators are pitilessly sacrificed ; and amongst spiders, where they are devoured by their companions unless they can immediately escape. We find reproduced the habits of a great number of insects, which never see their offspring, and lay their eggs in surroundings in which the newly-born will find their first food.

The human body on this Earth owes its form and its state of being to the atmospheric environment, and to the conditions of density, of weight, and of nutrition, by means of which terrestrial evolution operates.

The human being proceeds from the fusion of a microscopic masculine corpuscle with a minute feminine ovule. This fusion gives birth to a little cell which is transformed into the embryo, in which gradually appear the heart, the head, the limbs, and the different organs. The nervous system of this embryo may be compared to rays of delicate threads, proceeding from a central point which will become the brain.

Under the influence of the Solar light and of the vibrations of the air, one of these nerves is developed at its extremity, and forms the eye. This is undefined at first, and almost blind in an elementary state, like the eyes of the trilobites and of the fishes of the Silurian period, but it develops into the admirable eyes of birds, of the vertebræ, and of man. The senses of smell and taste proceed from the nerves in the same way. These last two senses, with that of touch, are the most primitive, the earliest, and the most necessary to life. There are but two of the senses which place man in communication with the outer world — sight and hearing, — but the eye is the sole organ which puts us in communication with the whole universe.

Millions of these little nerve-threads próceed from the brain, through the body, without producing any other than the five senses, unless we except certain sensations of touch, which are intimate and personal, and which have even been described as a sixth sense. You shall hear.

Now there is no reason why that which has taken place and been arrested on our little planet, should take place and be arrested in the same fashion elsewhere.

In proof of this I must tell you that I visited, not long since, two worlds on which human beings have two senses of which we have not any idea on our Earth.

One of these senses may be described as electrical. One of the little nerve-threads of which I have just told you is developed into a multitude of ramifications which form a sort of cornet. These, under the scalpel and the microscope, appear to be tubes placed in juxtaposition, the outer extremity of which receives the electric fluid and transmits it to the brain, much as our optic nerves receive the waves of light, and our auditory nerves receive the undulations of sound.

The beings provided with this sense perceive the electrical condition of bodies, of material things, of plants and flowers, of animals, of the atmosphere, and of clouds. To these beings this electric sense is a source of knowledge which is wholly forbidden to us. Their organic sensations are all different from yours. Their eyes are not constructed like yours; they do not see what you see; they see what you do not see. They are conscious only of the invisible violet rays. But their mode of existence differs from yours, especially through their electric sense. The electric constitution of their world is the cause of the existence and of the development of this sense.

Another sense with which I was still more struck, and which was of quite a different character, I found on a second world. This was the sense of orientation. Another of the nerve-threads proceeding from the brain produced a species of winged ear, very light, by means of which the living being perceives his direct bearings. He is conscious of the points of the compass, and turns to the north or the south, the east or the west, instinctively.

The atmosphere is full of emanations which you never perceive. This singular sense orients the possessors of it infallibly. It enables them also to discover things concealed in the interior of the Sun, and gives them an insight into some of Nature's secrets which are absolutely hidden from you.

I would thus demonstrate to you that in the vast domains of creation an infinite variety exists, and that eternity will be inexhaustibly occupied in gathering and partaking of its flowers and of its fruits.

There are worlds where old age is unknown — where lovers are consumed in a delirious fantasy, transported by the intoxication of the body, and careless of the morrow. The active sex never survive these nuptials; the passive sex, oviparous, having secured the perpetuity of the species, sleep their last sleep. Those celestial worlds, where one never grows old, are not without their advantages.

Life too long

Worlds exist in which the vital movements, respiration, assimilation, the organic periods, day and night, the seasons and the years, are all of extreme length. Although the nervous system of the human inhabitants is highly developed, and thought has a prodigious activity, life there appears to be of an endless length. Those who die of old age have lived more than a thousand of these years, but they are so rare that the memory of a few only have been preserved in the historical records of this humanity. War between the

A world without war.

nations has never been invented, because there is only one race, one people, one language. The natural constitutions of these organisms are remarkable. Diseases are almost unknown; there are no doctors. As a result of this great mental activity, the length of life becomes a perspective without end, and before long becomes a burden. Hence suicide is almost universal. This custom has been habitual from very ancient times. The few old men who from any special motive have not put an end to their lives, are looked upon as exceptional beings, originals, and more or less eccentric. Suicide is the general law.

But, my dear friend, it is impossible for me to describe to you all the curiosities of the universe. Let it suffice that I have raised the veil sufficiently, to give you a glimpse of the incommensurable diversity that exists, in the animated productions of all the various systems disseminated through space.

Infinite diversity

While accompanying me in spirit in this interstellar voyage, you have passed several hours away from the Earth. It is well to isolate one's self thus at times amongst the celestial solitudes. The soul obtains a fuller possession of itself, and in its solitary reflections it penetrates profoundly into the universal reality. Terrestrial humanity, you understand, is, as regards moral as well as physical life, the result virtually of the forces of the Earth. Human strength, figure, weight, all depend on these forces. The organic functions are determined by the planet. If life is divided with you between work and rest, between activity and sleep, it is because of the rotation of the globe, and day and night. In the luminous globes, and those lighted by many Suns alternately, they do not sleep. If you need to eat and drink, it is in consequence of the insufficiency of the atmosphere. The bodies of the beings who do not eat are not constructed like yours, since they have no need of a stomach and intestines. The terrestrial eye enables you to see the universe in a certain way, the Saturnian eye sees in a different manner.

Other senses than those of the Earth.

There are senses which perceive other things than those which you perceive in nature. Each of the worlds is inhabited by a race essentially different, and sometimes the inhabitants are neither vegetables nor animals. There are men of all possible forms, of all dimensions, of all weights, of all colours, of all sensations, of every variety of characteristics. The universe is infinite. Our terrestrial existence is only one phase of the infinite. An inexhaustible diversity enriches this marvellous field of the eternal Sower. The function of science is, to study all that the terrestrial senses are capable of perceiving. The function of philosophy is, to form a synthesis of all defined and determined ideas and facts, and to develop the sphere of thought.

What would you say if I told you not only of the physical differences of humanity, but also of its moral and intellectual diversities? Its varieties are great — too much so, indeed, for you to thoroughly understand them. As an instance, I will give you just one noteworthy example. In your terrestrial humanity, intellectual or moral worth counts for nothing in advancing a man, whatever may be the value of his ideas, or the worth of his personal character, unless he possesses the means and the determination to push himself forward. No one seeks for hidden merit. A man must needs make his own way, and struggle against intrigue, cupidity, and ambition — a strife which is the antipodes of what ought to be. It results, therefore, that the noblest and most worthy people remain in obscurity, whilst position, wealth, and social distinction are often showered on worthless intriguers.

Ah well! I recently visited a world belonging to one of the most luminous regions of the Milky Way, where an intellectual order absolutely different exists; where the constitution of the Government is such, that only those distinguished for their virtues are placed at the head of the State; and their function is to seek out, and place in responsible positions, men worthy of the trust.

In that country, in short, the search is as eager for the discovery of merit and intelligence, as it is in yours for gold and diamonds. All is done there for the benefit of humanity. They have not invented any Academy, as they cannot conceive that a man of worth (instead of being sought after) should be compelled to waste his time in visits of ceremony, and find, probably, that a titled nobody (who has known better than he how to cajole votes) has been preferred to himself. So true it is, that the system prevailing in other worlds is far more enlightened than that of yours.

Now, my dear terrestrial friend, you know what the Earth is in the universe; you know something of what the heavens contain; and you know also what Life is, and what Death is. We shall soon see the dawn of morning, which puts spirits to flight and brings our conversations to an end, as the approach of your terrestrial day causes the brightness of Venus to fade away. But I should like to add to the preceding ideas a very interesting remark suggested by the same observations. It is this: If you set out from the Earth at the moment that a flash of lightning bursts forth, and if you travelled for an hour or more with the light, you would see the lightning as long as you continued to look at it. This fact is established by the foregoing principles. But if, instead of travelling *exactly* with the velocity of light, you were to travel with a little less velocity; note the observation that you might make: I will suppose that this voyage away from the Earth, during which you look at the lightning, lasts a minute. I will suppose also, that the lightning lasts a thousandth part of a second. You will continue to see the lightning during 60,000 times its duration. In our first supposition this voyage is identical with that of light. Light has occupied 60,000 tenths of seconds to go from the Earth to the point in space where you are. Your voyage and that of light have co-existed. Now if instead of flying with just the same velocity as light, you had flown a little less quickly, and if you

The magnifying power of time.

had employed a thousandth part of a second more to arrive at the same point, instead of always seeing *the same moment of the lightning*, you would have seen, successively, the different moments which constituted the total duration of the lightning, equal to 1000 parts of a second. In this whole minute you would have had time to see first the beginning of the flash of lightning, and could analyse the development of it, the successive phases of it, to the very end. You may imagine what strange discoveries one could make in the secret nature of lightning, increased 60,000 times in the order of its duration, what frightful battles you would have time to discover in the flames! what pandemonium! what unlucky atoms! what a world hidden by its volatile nature from the imperfect eyes of mortals!

Vision of the analysing eye.

If you could see by your imagination sufficiently, to separate and count the atoms which constitute the body of a man, that body would disappear before you, for it consists of thousands of millions of atoms in motion, and to the analysing eye it would be a nebula animated by the forces of gravitation. Did not Swedenborg imagine that the universe by which he was surrounded, seen as a whole, was in the form of an immense man? That was anthropomorphism. But there are analogies everywhere. What we know most certainly is, that things *are not* what they appear to be, either in space or in time. But let us return to the delayed flash of lightning.

When you travel with the velocity of light, you see constantly the scene which was in existence at the moment of your departure. If you were carried away for a year, at the same rate, you would have before your eyes the same event for that time. But if, in order to see more distinctly an event which would have taken only a few seconds, such as the fall of a mountain, an avalanche, or an earthquake, you were to delay, to see the commencement of the catastrophe (in slackening a little, your steps on those of light), you would see the progress of the catastrophe, its first moment, its second, and so on successively, in thus nearly following the light, you would only see the end after an hour of observation. The event would last for you an hour instead of a few seconds. You would see the rocks, or the stones suspended in the air, and could thus ascertain the mode of production of the phenomenon, and its incidental delays. Already your terrestrial scientific knowledge enables you to take instantaneous photographs of the successive aspects of rapid phenomena, such as lightning, a meteor, the waves of the sea, a volcanic eruption, the fall of a building, and to make them pass before you graduated in accordance with their effect on the retina. Similarly you can, on the contrary, photograph the pollen of a flower, through each stage of expansion to its completion in the fruit, or the development of a child from its birth to maturity, and project these phases upon a screen, depicting in a few seconds the life of a man, or a tree.

A chrono-telescope.

I see in your thoughts that you compare this effect to that of a microscope which would magnify time. That is exactly what it is; we thus see time amplified. This process cannot strictly speaking be called that of the microscope, but rather that of a *chronoscope* or of a chrono-telescope (to see time from afar). The duration of a reign might, by the same process, be augmented according to the good pleasure of the parti politique.

Thus, for example, Napoleon II. reigned only three hours, but one could see him reign for fifteen years *successively*, by dispersing the 180 minutes of the three hours over the length of 180 months (in removing one's self from the Earth with a velocity a little inferior to that of light); so, by setting out at the very moment that the Chamber had proclaimed Napoleon II., one would arrive at the last minute of his supposed reign, only at the end of fifteen years. Each minute would be seen for a month, each second for twelve hours.

Light transmission in space.

The conclusions of this discourse are based entirely on this principle, my dear Quærens. I have endeavoured to show you that the physical law of the *successive transmission of Light* in space, is one of the *fundamental elements of the conditions of eternal life.* According to this law every event is imperishable, and the past is always present. The image of the Earth as it was 6000 years ago, is actually now in space at the distance that light crossed it 6000 years since. The worlds situated in that region see the Earth of that epoch. We could see again our own direct existence and our different anterior existences. All that we need for this is to be at the proper distance from the worlds in which we had lived. There are stars which you see from the Earth, and which no longer exist, because they became extinct after they had emitted the luminous ray which has only just reached you.

In the same way you might hear the voice of a man at a distance, who might be dead before the moment at which you heard him, if, perchance, he had been struck with apoplexy immediately after he had uttered his last cry.

There are living forms unknown to Earth.

I am very much pleased that this last sketch has enabled me at the same time to trace for you a picture of the diversities of existence and of the *possibility of living forms unknown to the Earth.* Here also you see the revelations of Urania are grander and more profound than those of all her sisters. *The Earth is only an atom in the universe.*

I must pause here, for all these numerous and diverse applications of the laws of light are not apparent to you. On the Earth, in this dark cavern, as Plato appropriately termed it, you vegetate in ignorance of the gigantic forces in action in the universe. The day will come when physical science will discover in light the principle of every movement and the inner reason of things. Already within the last few years spectrum analysis has demonstrated to you that by the examination of a luminous ray from the Sun, or from a Star, you can learn what substances constitute that Sun and that Star. Already you can determine, across a distance of millions and millions of miles, the nature of celestial bodies from which a ray of light has come to you! And the study of light will afford still more splendid results, both in experimental science, and in its application to the philosophy of the universe.

But the refraction of the earth's atmosphere is projecting beyond the zenith the light shed forth by the distant Sun. The vibrations of the light of day will let me talk with you no longer. Farewell, my good friend. Farewell! or rather,

Anticipations.

au revoir! Great things are going to happen around you. After the storm I shall perhaps return for one last visit to give you proof of my existence, and to show that I have not forgotten you. Then, later, when your life upon this little planet is done, I shall come to you once more, and together we will take our real journey through the unspeakable splendours of speed. Nor can you ever, in your wildest dreams, form even a faint idea of the stupendous surprises, the inconceivable wonders which there await you.

THE END